



**AIRTECH**  
*Environmental  
Services Inc.*

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5776 Lamar Street • Arvada, CO 80002  
Phone: (800) 818-6460 • Fax: (303) 670-4130  
[www.airtechenv.com](http://www.airtechenv.com)

## **Report on the Carbon Reactivation Furnace CEMS Evaluation**

**Conducted for Focus Environmental, Inc.  
At the US Filter Westates Carbon Facility  
Located in Parker, Arizona**

*Report No. 2282A  
March 24, 2006*

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## **Project Overview**

### **General**

Airtech Environmental Services Inc. was contracted by Focus Environmental, Inc. to evaluate the continuous emission monitoring systems (CEMS) at the US Filter – Westates Carbon facility located in Parker, Arizona. The CEMS are redundant systems used to monitor the emissions of the Carbon Reactivation Furnace exhaust. The evaluation was performed to satisfy the requirements of 40 CFR Part 63, Subpart EEE. The specific objectives of the program were as follows:

- Perform a Calibration Drift (CD) test on the CEMS.
- Perform a Calibration Error (CE) test on the CEMS.
- Determine the interference response time (RT) for each monitor included in the CEMS.
- Perform a relative accuracy test audit (RATA) on each CEMS.

The CD test was conducted from February 5 through 17, 2006. The CE test was performed February 8, 2006. The RT test was performed on February 9, 2006. The RATAs were performed February 9, 2006. Coordinating the field aspects of the test program were:

Anthony R. Eicher – Focus Environmental, Inc.  
Cliff Anderson – US Filter Westates Carbon  
Timothy Wojtach – Airtech Environmental Services Inc.

### **Methodology**

#### ***CD Methodology***

A CD test was performed on the CEMS by introducing a zero gas and one EPA Protocol gas to the CEMS as close to the probe tip as possible. The CEMS was challenged on each of seven consecutive days, and the CEMS response recorded. The CD test was performed by US Filter Westates Carbon personnel.

#### ***CE Methodology***

A CE test was performed on the CEMS by introducing EPA Protocol gases at three different concentrations. The gases were introduced to the CEMs as close to the probe tip as possible. The CEMS was challenged three non-consecutive times at each measurement point and the CEMS response recorded. The CE test was performed during the calibration drift time period by US Filter Westates Carbon personnel.

### ***RT Methodology***

The RT test was conducted by introducing a zero gas into the CEMS. Once the system output stabilized, an upscale gas was introduced into the CEMS. The upscale response time was the time required for the CEMS output to reach 95 percent of the final stable value. The downscale response time was determined by performing the procedure in reverse.

### ***CEMS RATA Methodology***

A RATA was performed on the incinerator stack for carbon monoxide (CO) and oxygen (O<sub>2</sub>). The relative accuracy (RA) of the CEMS was determined by comparing the results of reference method (RM) tests to the results of the installed CEMS. EPA Methods 3A and 10 were the reference methods used. Results were expressed in units of parts per million dry (ppmd) CO, corrected to seven percent oxygen. Up to twelve test runs were performed with each test run lasting 21 minutes, with nine of the runs used to calculate the results.

### **Discussion of Results**

The results of the CE, RT, and CD tests are presented below for the CEM systems. Data for CO is presented as percent of span. Data for O<sub>2</sub> is presented as actual concentration difference of O<sub>2</sub>. All supporting data can be found in the Process Data section of the Appendix. Criteria values were obtained from Performance Specification 4B.

<b>Parameter</b>	<b>TECO CO Low Range</b>	<b>TECO CO High Range</b>	<b>Ametek Oxygen</b>	<b>Criteria</b>
<b>CE (%)</b>				
Zero/Low	2.57	0.25	0.05/0.25	<5.0 (0.5 for O <sub>2</sub> )
Mid	0.70	1.20	0.28	<5.0 (0.5 for O <sub>2</sub> )
High	0.63	0.77	0.29	<5.0 (0.5 for O <sub>2</sub> )
<b>RT (sec)</b>	98.3	91.7	56.7	< 120 sec
<b>CD (%)</b>				
Zero Drift	All < 3.0	All < 3.0	All < 0.5	<3.0 (0.5 for O <sub>2</sub> )
Span Drift	All < 3.0	All < 3.0	All < 0.5	<3.0 (0.5 for O <sub>2</sub> )

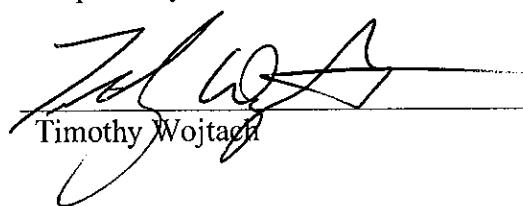
<b>Parameter</b>	<b>Siemens CO Low Range</b>	<b>Siemens CO High Range</b>	<b>Thermox Oxygen</b>	<b>Criteria</b>
<b>CE (%)</b>				
Zero/Low	3.13	0.31	0.15/0.02	<5.0 (0.5 for O <sub>2</sub> )
Mid	0.73	0.20	0.08	<5.0 (0.5 for O <sub>2</sub> )
High	0.67	1.09	0.11	<5.0 (0.5 for O <sub>2</sub> )
<b>RT (sec)</b>	63.3	63.3	46.7	< 120 sec
<b>CD (%)</b>				
Zero Drift	All < 3.0	All < 3.0	All < 0.5	<3.0 (0.5 for O <sub>2</sub> )
Span Drift	All < 3.0	All < 3.0	All < 0.5	<3.0 (0.5 for O <sub>2</sub> )

The results of the relative accuracy test audits are summarized in the following table. Detailed results of each RA test are presented in Tables 1 through 4 on Pages 5 through 8. The criteria values listed were obtained from Performance Specification 4B. The CO RA is absolute value of the average difference between the RM and the CEMs plus the 2.5 percent confidence coefficient. The O<sub>2</sub> RA is the absolute value of the average difference between the RM and the CEMs. The first twelve runs were used to calculate the RA of the oxygen analyzers. After the first twelve runs demonstrated that the oxygen analyzer passed RA, further test runs were not included in the calculations.

In order to allow for flexibility in the use of the CEMS, the RATA results were calculated for each CO analyzer in combination with each O<sub>2</sub> analyzer.

<b>Parameter</b>	<b>RM Concentration</b>	<b>CEM Concentration</b>	<b>RA Criteria</b>	<b>RA Result</b>
Ametek O <sub>2</sub>	9.73%	9.80%	< 1%	0.0690%
Thermox O <sub>2</sub>	9.60%	9.53%	< 1%	0.0729%
TECO CO & Ametek O <sub>2</sub>	7.26 ppm	9.57 ppm	< 5 ppm	2.41 ppm
TECO CO & Thermox O <sub>2</sub>	7.26 ppm	9.37 ppm	< 5 ppm	2.25 ppm
Siemens CO & Ametek O <sub>2</sub>	1.40 ppm	4.93 ppm	< 5 ppm	3.95 ppm
Siemens CO & Thermox O <sub>2</sub>	1.40 ppm	4.82 ppm	< 5 ppm	3.80 ppm

Prepared by:

  
\_\_\_\_\_  
Timothy Wojtačik

Reviewed by:

  
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Patrick Clark, P.E.

## Summary of Results

**Table 1 - Relative Accuracy Test Audit Results – Oxygen Analyzers**

Run	Start	Stop	Ametek		Thermox	
	Time	Time	O <sub>2</sub> - RM (%)	O <sub>2</sub> - CEM (%)	O <sub>2</sub> - RM (%)	O <sub>2</sub> - CEM (%)
1	8:58	9:19	10.4	10.5	10.4	10.4
2	9:26	9:46	9.85	10.0	9.85	9.81
3	9:55	10:15	10.1	9.68	10.1	9.99
4	10:22	10:42	9.53	9.67	9.53	9.45
5	11:36	11:56	9.48	9.59	*	9.48
6	12:05	12:25	*	9.17	9.17	9.17
7	12:32	12:52	*	8.36	8.36	8.25
8	13:09	13:29	9.86	10.0	9.86	9.77
9	13:37	13:57	9.06	9.20	*	9.06
10	14:09	14:29	10.3	10.4	10.3	10.2
11	14:38	14:58	8.99	9.14	*	8.99
12	15:05	15:25	*	8.82	8.82	8.72
	Mean		9.73	9.80	9.60	9.53

### RESULTS

Runs	9	9
t <sub>0.975</sub>	2.306	2.306
S <sub>d</sub>	0.178	0.0340
CC	0.137	0.0262
d <sub>m</sub>	<b>0.0690</b>	<b>0.0729</b>
RA	2.11	1.03

\* Indicates the run was not used in the RA calculations.

**Table 2 - Relative Accuracy Test Audit Results – TECO CO Analyzer**

Run	Start Stop		Calculated Using Ametek O <sub>2</sub>		Calculated Using Thermox O <sub>2</sub>	
	Time	Time	CO- RM (ppm @ 7% O <sub>2</sub> )	CO- CEM (ppm @ 7% O <sub>2</sub> )	CO- RM (ppm @ 7% O <sub>2</sub> )	CO- CEM (ppm @ 7% O <sub>2</sub> )
1	8:58	9:19	*	13.7	16.4	*
2	9:26	9:46		10.6	13.1	10.6
3	9:55	10:15	*	8.97	11.9	*
4	10:22	10:42		10.8	13.0	10.8
5	11:36	11:56		9.69	12.1	9.69
6	12:05	12:25		10.2	12.2	10.2
7	12:32	12:52		8.46	10.7	8.46
8	13:09	13:29		9.22	11.6	9.22
9	13:37	13:57		4.77	7.14	4.77
10	14:09	14:29	*	1.66	4.42	*
11	14:38	14:58		0.754	3.16	0.754
12	15:05	15:25		0.829	3.15	0.829
Mean			7.26	9.57	7.26	9.37

RESULTS	CO (ppm @ 7% O <sub>2</sub> )	CO (ppm @ 7% O <sub>2</sub> )
Runs	9	9
t <sub>0.975</sub>	2.306	2.306
S <sub>d</sub>	0.130	0.174
CC	0.100	0.133
d <sub>m</sub>	-2.32	-2.12
RA <sup>1</sup>	33.3	31.0
Applicable Standard	100	100
RA <sup>2</sup>	2.41	2.25
RA <sup>3</sup>	2.41	2.25

RA<sup>1</sup> was calculated relative to the average reference method value.

RA<sup>2</sup> was calculated relative to the applicable standard.

RA<sup>3</sup> was calculated using the average difference plus the 2.5% confidence coefficient.

\* indicates runs that are not included in the RA calculations.

**Table 3 - Relative Accuracy Test Audit Results – Siemens CO Analyzer**

Run	Start Time		Calculated Using Ametek O <sub>2</sub>		Calculated Using Thermox O <sub>2</sub>	
	Time	Stop Time	CO - RM (ppm @7% O <sub>2</sub> )	CO - RM (ppm @7% O <sub>2</sub> )	CO - RM (ppm @7% O <sub>2</sub> )	CO - RM (ppm @7% O <sub>2</sub> )
1	14:38	14:58	0.557	4.06	0.75	3.97
2	15:05	15:25	0.635	4.02	0.83	3.92
3	15:33	15:53	0.906	4.03	0.91	3.95
4	16:03	16:23	0.910	4.38	0.91	4.28
5	16:29	16:49	0.777	4.13	0.78	4.03
6	16:57	17:17	0.800	4.15	0.80	4.06
7	17:24	17:44	1.46	4.55	1.46	4.45
8	17:52	18:12	2.51	6.71	2.51	6.53
9	18:22	18:42	3.68	8.37	3.68	8.16
10	18:51	19:11	*	3.34	9.14	*
Mean			1.40	4.93	1.40	4.82

RESULTS	CO (ppm @ 7% O <sub>2</sub> )	CO (ppm @ 7% O <sub>2</sub> )
Runs	9	9
t <sub>0.975</sub>	2.306	2.306
S <sub>d</sub>	0.547	0.502
CC	0.420	0.386
d <sub>m</sub>	-3.53	-3.41
RA <sup>1</sup>	282	271
Applicable Standard	100	100
RA <sup>2</sup>	3.95	3.80
RA <sup>3</sup>	3.95	3.80

RA<sup>1</sup> was calculated relative to the average reference method value.

RA<sup>2</sup> was calculated relative to the applicable standard.

RA<sup>3</sup> was calculated using the average difference plus the 2.5% confidence coefficient.

\* indicates runs that are not included in the RA calculations.

## **Test Procedures**

### **Method Listing**

The procedures and test methods found in 40 CFR Part 60, Appendix A and B were used during the test program. The following specific methods were referenced:

- Method 3A      Determination of oxygen and carbon dioxide concentrations in emissions from stationary sources (instrumental analyzer procedure)
- Method 10      Determination of carbon monoxide emissions from stationary sources
- PS 4B      Specifications and test procedures for carbon monoxide and oxygen continuous emission monitoring systems in stationary sources

### **Method Descriptions**

#### ***Methods 3A and 10***

The oxygen ( $O_2$ ) and carbon monoxide (CO) concentrations at the test location were determined using EPA Methods 3A and 10. A sample of the gas stream was continuously withdrawn from the test location and analyzed using a continuous gas analyzing system. A diagram of the reference method (RM) sampling system is shown in Figure 1 of the Appendix.

The sample gas was withdrawn from the test location at a constant rate through a Teflon probe, a glass fiber filter and a Teflon sample line. The probe, filter and sample line were operated at a temperature of at least 250 °F to prevent the condensation of moisture. The sample gas was then directed to an VIA MAK-3 gas cooler system. The gas cooler consisted of two separate stages designed to unobtrusively lower the dewpoint of the sample gas to 35 °F, thus removing the moisture. The dry gas was then vented to the oxygen and carbon monoxide analyzers. Results from these analyzers were determined on a "dry" basis.

The analyzers that were used for this project are listed in the table below:

<b>Parameter</b>	<b>Manufacturer</b>	<b>Model Number</b>	<b>Operating Principle</b>	<b>Units Reported</b>	<b>Range Used</b>
Oxygen	Servomex	1440	Paramagnetic	(%)	(0-25)
Carbon Monoxide	Thermo Environmental	48C	Infrared, Gas Filter Correlation	(ppm)	(0-100)

Prior to sampling, a calibration error test was performed for each analyzer. The zero and high-range calibration gases for each constituent were introduced directly into each analyzer. Each analyzer was then adjusted to the appropriate values. Two intermediate

gases were then introduced to each analyzer and the measured values were recorded. The measured values for each calibration gas were then compared to the calibration gas values and the differences were less than the method requirement of two percent of the span value.

A sample system bias check was then performed by introducing the zero and mid-range calibration gases into the sampling system at the base of the probe. The gas was drawn through the entire sampling system. The measured responses were then compared to the calibration error test values to determine the bias in response due to the sampling system. The sampling system bias was less than the method requirement of five percent of the span value. In addition, the system response time was determined by measuring the time required for each analyzer to reach 95 percent of its' high-range calibration gas value.

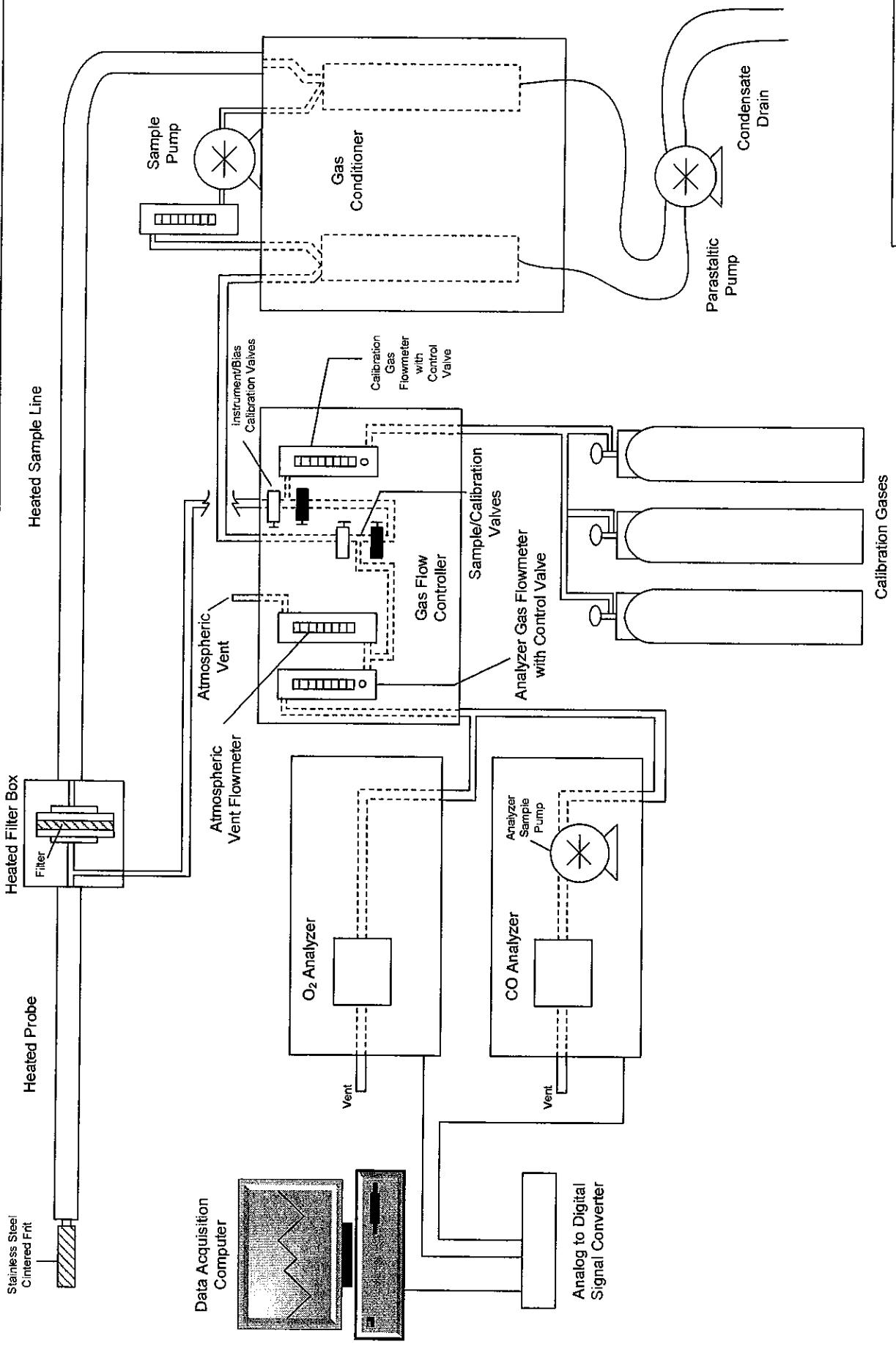
After each test run the instrument drift for each analyzer was determined by introducing the zero and mid-range calibration gases into the sampling system at the base of the probe. The gas was drawn through the entire sampling system. The measured responses were then compared to the values from the previous test run to determine the analyzer drift. For all test runs, the analyzer drift was less than the method requirement of three percent of the span value.

## **Description of Installation**

US Filter Westates Carbon operates a Carbon Reactivation Furnace at their facility located in Parker, Arizona. Two continuous emissions monitoring (CEM) systems are used to monitor the concentrations of carbon monoxide (CO) and oxygen (O<sub>2</sub>) in emissions from the Carbon Reactivation Furnace exhaust. The facility uses primary and backup analyzers as part of the CEMS. The specific analyzers used in the CEM system are listed in the table below.

<b>Analyte</b>	<b>Manufacturer</b>	<b>Model Number</b>	<b>Serial Numbers</b>	<b>Ranges</b>
Oxygen	Ametek	FCA-Control	C107994B	(0-21)
Oxygen	Thermox	Series 2000	C141998	(0-21)
Carbon Monoxide	Thermo Environmental Instruments	48	48-45315-273	(0-100) (0-1000)
Carbon Monoxide	Siemens	Ultramat 23	7MB2333-2DK50-4da2	(0-100) (0-1000)

All RATA sampling was performed at the stack where the facility CEM Sample probe is located.



EPA Methods 3A and 10:  
O<sub>2</sub> and CO Gas Sampling System

Figure 1

## **Sample Calculations, TECO Carbon Monoxide, Run 1**

### **Carbon Monoxide Concentration, Corrected for Analyzer Drift**

$$C_d = \left( C - \left( \frac{c_{0i} + c_{0f}}{2} \right) \right) \left( \frac{c_a}{\left( \frac{c_{si} + c_{sf}}{2} \right) - \left( \frac{c_{0i} + c_{0f}}{2} \right)} \right)$$

$$C_d = \left( 10.7 - \left( \frac{0.3 + 0.2}{2} \right) \right) \left( \frac{30.310}{\left( \frac{31.0 + 31.0}{2} \right) - \left( \frac{0.3 + 0.2}{2} \right)} \right)$$

$$C_d = 10.3 \text{ ppmv}$$

where:

$C_d$	= carbon monoxide concentration, corrected for analyzer drift (ppmv)
$C$	= carbon monoxide concentration (ppmv)
$c_{0i}$	= initial zero calibration value (ppmv)
$c_{0f}$	= final zero calibration value (ppmv)
$c_{si}$	= initial span calibration value (ppmv)
$c_{sf}$	= final span calibration value (ppmv)
$c_a$	= actual span gas value (ppmv)

### **Carbon Monoxide Concentration, Corrected to 7% O<sub>2</sub>**

$$C_{@7\%O_2} = C_d \times \left( \frac{20.9 - 7}{20.9 - \%O_2} \right)$$

$$C_{@7\%O_2} = 10.3 \times \left( \frac{20.9 - 7}{20.9 - 10.4} \right)$$

$$C_{@7\%O_2} = 13.7 \text{ ppmv} @ 7\%O_2$$

where:

$C_{@7\%O_2}$	= concentration of carbon monoxide, corrected to 7% O <sub>2</sub> (ppm)
$C_d$	= carbon monoxide concentration, corrected for analyzer drift (ppmv)
$\%O_2$	= concentration of oxygen (%)
20.9	= ambient concentration of oxygen (%)
7	= correction value (%)

### *Relative Accuracy Calculations (Ametek & TECO Combination)*

#### **Standard Deviation, CO ppm @ 7% O<sub>2</sub>**

$$S_d = \sqrt{\frac{\sum_{i=1}^n d_i^2 - \frac{\left(\sum_{i=1}^9 d_i\right)^2}{n}}{(n-1)}}$$

$$S_d = \sqrt{\frac{48.4 - \frac{(-20.8)^2}{9}}{(9-1)}}$$

$$S_d = 0.130$$

where:

- S<sub>d</sub> = standard deviation
- d<sub>i</sub> = difference between the reference method result and the CEM value for a given run (ppm at 7% O<sub>2</sub>)
- i = run number
- n = number of runs used for calculations

#### **Confidence Coefficient, CO ppm @ 7% O<sub>2</sub>**

$$CC = \frac{(t_{0.975})(S_d)}{\sqrt{n}}$$

$$CC = \frac{(2.306)(0.130)}{\sqrt{9}}$$

$$CC = 0.100$$

where:

- CC = confidence coefficient
- t<sub>0.975</sub> = the inverse of the Student's t-distribution for the specified degrees of freedom
- S<sub>d</sub> = standard deviation
- n = number of runs used for calculations

## Mean of the Differences<sup>2</sup>

$$d_m = \frac{\sum_{i=1}^9 d_i}{n}$$

$$d_m = \frac{-20.8}{9}$$

$$d_m = -2.32 \text{ ppm @ 7\% O}_2$$

where:

- $d_m$  = mean of the differences  
 $d_i$  = difference between the reference method result and the CEM value for a given run (ppm at 7% O<sub>2</sub>)  
n = number of runs used for calculations

## Relative Accuracy, CO, ppm @ 7% O<sub>2</sub>

$$RA^3 = |d_m| + |CC|$$

$$RA^3 = |-2.32| + |0.100|$$

$$RA^3 = 2.41 \text{ ppm @ 7\% O}_2$$

where:

- $RA^3$  = relative accuracy (ppm at 7% O<sub>2</sub>)  
 $d_m$  = mean of the differences  
CC = confidence coefficient

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<sup>2</sup> The absolute value of the mean of the differences is used to determine the RA of the oxygen analyzers.

## CEM RA Parameters - Thermox Oxygen

Run	Start Time	Stop Time	O <sub>2</sub> - RM (%)	O <sub>2</sub> - CEM (%)	O <sub>2</sub> (d)	O <sub>2</sub> (d) <sup>2</sup>
1	8:58	9:19	10.4	10.4	0.0556	0.00309
2	9:26	9:46	9.85	9.81	0.0398	0.00158
3	9:55	10:15	10.1	9.99	0.0913	0.00834
4	10:22	10:42	9.53	9.45	0.0823	0.00677
5	11:36	11:56	*	9.48	0.116	0.0135
6	12:05	12:25	9.17	9.17	0.00140	0.00000196
7	12:32	12:52	8.36	8.25	0.105	0.0111
8	13:09	13:29	9.86	9.77	0.0918	0.00842
9	13:37	13:57	*	9.06	0.126	0.0159
10	14:09	14:29	10.3	10.2	0.0923	0.00852
11	14:38	14:58	*	8.99	0.134	0.0178
12	15:05	15:25	8.82	8.72	0.0962	0.00926
Mean / Sum			9.60	9.53	0.656	0.0571

**RESULTS****O<sub>2</sub>**

Runs	9
t <sub>0.975</sub>	2.306
S <sub>d</sub>	0.0340
CC	0.0262
d <sub>m</sub>	<b>0.0729</b>
RA <sup>1</sup>	1.03

RA<sup>1</sup> - Relative to the reference method resultsRA<sup>2</sup> - Relative to the applicable standardRA<sup>3</sup> - Absolute average difference plus the 2.5% confidence coefficient

CEM RA Parameters - Ametek Oxygen

Run	Start Time	Stop Time	O <sub>2</sub> - RM (%)	O <sub>2</sub> - CEM (%)	O <sub>2</sub> (d)	O <sub>2</sub> (d) <sup>2</sup>
1	8:58	9:19	10.4	10.5	-0.0844	0.00713
2	9:26	9:46	9.85	10.0	-0.150	0.0226
3	9:55	10:15	10.1	9.68	0.401	0.161
4	10:22	10:42	9.53	9.67	-0.138	0.0190
5	11:36	11:56	9.48	9.59	-0.114	0.0129
6	12:05	12:25	*	9.17	-0.259	0.0669
7	12:32	12:52	*	8.36	-0.195	0.0379
8	13:09	13:29	9.86	10.0	-0.138	0.0191
9	13:37	13:57	9.06	9.20	-0.144	0.0207
10	14:09	14:29	10.3	10.4	-0.108	0.0116
11	14:38	14:58	8.99	9.14	-0.146	0.0214
12	15:05	15:25	*	8.82	-0.184	0.0338
Mean / Sum			9.73	9.80	-0.621	0.296

RESULTSO<sub>2</sub>

Runs	9
t <sub>0.975</sub>	2.306
S <sub>d</sub>	0.178
CC	0.137
d <sub>m</sub>	<b>0.0690</b>
RA <sup>1</sup>	2.11

RA<sup>1</sup> - Relative to the reference method resultsRA<sup>2</sup> - Relative to the applicable standardRA<sup>3</sup> - Absolute average difference plus the 2.5% confidence coefficient

**CEM RA Parameters****TECO CO with Ametek Oxygen**

Run	Start Time	Stop Time	CO - RM (ppm@7%O2)	CO - CEM (ppm@7%O2)	CO (d)	CO (d)^2
1	8:58	9:19	*	13.7	-2.69	7.24
2	9:26	9:46		10.6	-2.44	5.96
3	9:55	10:15	*	8.97	-2.92	8.51
4	10:22	10:42		10.8	-2.23	4.99
5	11:36	11:56		9.69	-2.40	5.75
6	12:05	12:25		10.2	-2.02	4.09
7	12:32	12:52		8.46	-2.26	5.10
8	13:09	13:29		9.22	-2.39	5.70
9	13:37	13:57		4.77	-2.37	5.61
10	14:09	14:29	*	1.66	-2.76	7.63
11	14:38	14:58		0.75	-2.41	5.79
12	15:05	15:25		0.83	-2.32	5.38
Mean / Sum			7.26	9.57	-20.8	48.4

**RESULTS****CO**

Runs	9
t <sub>0.975</sub>	2.306
S <sub>d</sub>	0.130
CC	0.100
d <sub>m</sub>	-2.32
RA <sup>1</sup>	33.3
Applicable Standard	100
RA <sup>2</sup>	2.41
<b>RA<sup>3</sup></b>	<b>2.41</b>

RA<sup>1</sup> - Relative to the reference method resultsRA<sup>2</sup> - Relative to the applicable standardRA<sup>3</sup> - Absolute average difference plus the 2.5% confidence coefficient

## CEM RA Parameters

## TECO CO with Thermox Oxygen

Run	Start Time	Stop Time		CO - RM (ppm@7%O2)	CO - CEM (ppm@7%O2)	CO (d)	CO (d)^2
1	8:58	9:19	*	13.7	16.2	-2.47	6.10
2	9:26	9:46		10.6	12.8	-2.21	4.89
3	9:55	10:15	*	8.97	12.2	-3.25	10.5
4	10:22	10:42		10.8	12.8	-1.99	3.97
5	11:36	11:56		9.69	11.9	-2.16	4.66
6	12:05	12:25		10.2	11.9	-1.75	3.07
7	12:32	12:52		8.46	10.5	-2.01	4.04
8	13:09	13:29		9.22	11.4	-2.15	4.61
9	13:37	13:57		4.77	6.98	-2.21	4.88
10	14:09	14:29	*	1.66	4.34	-2.68	7.20
11	14:38	14:58		0.75	3.08	-2.33	5.41
12	15:05	15:25		0.83	3.08	-2.25	5.06
Mean / Sum				7.26	9.37	-19.1	40.6

## RESULTS

## CO

Runs	9
$t_{0.975}$	2.306
$S_d$	0.174
CC	0.133
$d_m$	-2.12
RA <sup>1</sup>	31.0
Applicable Standard	100
RA <sup>2</sup>	2.25
RA <sup>3</sup>	2.25

RA<sup>1</sup> - Relative to the reference method resultsRA<sup>2</sup> - Relative to the applicable standardRA<sup>3</sup> - Absolute average difference plus the 2.5% confidence coefficient

## OXYGEN

<b>Analyzer Values</b>	<b>Actual</b>	<b>Error</b>	<b>Bias</b>	<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>	<b>Run 4</b>	<b>Run 5</b>	<b>Run 6</b>
Date		2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06
Start Time		7:17	7:41	8:58	9:26	9:55	10:22	11:36	12:05
Stop Time		7:32	7:46	9:19	9:46	10:15	10:42	11:56	12:25
Concentration, C (%)				10.3	9.73	10.0	9.40	9.32	9.01
Zero Cal Gas, C <sub>0</sub> (%)	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1
Low Cal Gas (%)	6.98	6.87							
Mid Cal Gas (%)	14.04	14.0							
High Cal Gas (%)	21.02	21.0							
Span Value (%)	25.0								
Bias/Drift Check Gas, C <sub>s</sub> (%)	13.98		13.9	13.9	13.8	13.8	13.8	13.8	13.8
	13.96								

**RESULTS**

Zero Error (%)	2 % of Span	-0.1							
Low Error (%)		-0.5							
Mid Error (%)		-0.3							
High Error (%)		-0.2							
Zero Bias (%)	5 % of Span		0.1	0.1	0.0	0.1	-0.2	-0.1	-0.1
Upscale Bias (%)			-0.4	-0.4	-0.6	-0.5	-0.7	-0.7	-0.8
Zero Drift (%)	3 % of Span			-0.1	-0.1	0.1	-0.3	0.1	-0.1
Upscale Drift (%)				0.0	-0.2	0.2	-0.3	0.0	-0.1
Concentration Corrected for Drift, C <sub>d</sub> (%)				<b>10.4</b>	<b>9.85</b>	<b>10.1</b>	<b>9.53</b>	<b>9.48</b>	<b>9.17</b>

## OXYGEN

<b>Analyzer Values</b>	<b>Actual</b>	<b>Error</b>	<b>Run 7</b>	<b>Run 8</b>	<b>Run 9</b>	<b>Run 10</b>	<b>Run 11</b>	<b>Run 12</b>
Date		2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06
Start Time		7:17	12:32	13:09	13:37	14:09	14:38	15:05
Stop Time		7:32	12:52	13:29	13:57	14:29	14:58	15:25
Concentration, C (%)			8.21	9.69	8.90	10.1	8.83	8.66
Zero Cal Gas, C <sub>0</sub> (%)	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	0.0
Low Cal Gas (%)	6.98	6.87						
Mid Cal Gas (%)	14.04	14.0						
High Cal Gas (%)	21.02	21.0						
Span Value (%)	25.0							
Bias/Drift Check Gas, C <sub>s</sub> (%)	13.98		13.8	13.7	13.8	13.7	13.8	13.8
	13.96							

**RESULTS**

Zero Error (%)	2 % of Span	-0.1						
Low Error (%)		-0.5						
Mid Error (%)		-0.3						
High Error (%)		-0.2						
Zero Bias (%)	5 % of Span		0.0	-0.1	0.1	-0.1	0.0	-0.1
Upscale Bias (%)			-0.7	-0.9	-0.7	-0.9	-0.8	-0.8
Zero Drift (%)	3 % of Span		0.1	-0.1	0.2	-0.2	0.1	-0.1
Upscale Drift (%)			0.1	-0.1	0.1	-0.1	0.0	0.0
Concentration Corrected for Drift, C <sub>d</sub> (%)			<b>8.36</b>	<b>9.86</b>	<b>9.06</b>	<b>10.3</b>	<b>8.99</b>	<b>8.82</b>

## CARBON MONOXIDE

Analyzer Values	Actual	Error	Bias	Run 1	Run 2	Run 3	Run 4	Run 5	Run 6
Date		2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06
Start Time		7:17	7:41	8:58	9:26	9:55	10:22	11:36	12:05
Stop Time		7:32	7:46	9:19	9:46	10:15	10:42	11:56	12:25
Concentration, C (ppm)				10.7	8.81	7.31	9.12	8.26	8.88
Zero Cal Gas, $C_0$ (ppm)	0.0	0.1	0.3	0.2	0.3	0.2	0.2	0.2	0.2
Low Cal Gas (ppm)	30.310		31.0						
Mid Cal Gas (ppm)	61.0		60.4						
High Cal Gas (ppm)	89.8		89.4						
Span Value (ppm)	100								
Bias/Drift Check Gas, $C_s$ (ppm)	30.310		31.0	31.0	30.9	30.9	30.9	30.8	30.8
		31.0							

**RESULTS**

Zero Error (%)	2 % of Span	0.1							
Low Error (%)		0.7							
Mid Error (%)		-0.6							
High Error (%)		-0.4							
Zero Bias (%)	5 % of Span		0.2	0.1	0.2	0.1	0.1	0.1	0.1
Upscale Bias (%)			0.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.3
Zero Drift (%)	3 % of Span			-0.1	0.0	-0.1	0.0	0.0	0.0
Upscale Drift (%)				-0.1	0.0	-0.1	0.0	-0.1	0.0
Concentration Corrected for Drift, $C_d$ (ppm)				10.3	8.44	6.98	8.81	7.96	8.60
Concentration Corrected to 7% Oxygen (ppm)				13.7	10.6	8.97	10.8	9.69	10.2

## CARBON MONOXIDE

<b>Analyzer Values</b>	<b>Actual</b>	<b>Error</b>	<b>Run 7</b>	<b>Run 8</b>	<b>Run 9</b>	<b>Run 10</b>	<b>Run 11</b>	<b>Run 12</b>
Date		2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06
Start Time		7:17	12:32	13:09	13:37	14:09	14:38	15:05
Stop Time		7:32	12:52	13:29	13:57	14:29	14:58	15:25
Concentration, C (ppm)			7.89	7.58	4.31	1.51	0.89	0.95
Zero Cal Gas, $C_0$ (ppm)	0.0	0.1	0.2	0.2	0.2	0.3	0.2	0.2
Low Cal Gas (ppm)	30.310	31.0						
Mid Cal Gas (ppm)	61.0	60.4						
High Cal Gas (ppm)	89.8	89.4						
Span Value (ppm)	100							
Bias/Drift Check Gas, $C_s$ (ppm)	30.310 31.0		30.7	30.8	30.7	30.9	30.7	30.8

**RESULTS**

Zero Error (%)	2 % of Span	0.1						
Low Error (%)		0.7						
Mid Error (%)		-0.6						
High Error (%)		-0.4						
Zero Bias (%)	5 % of Span		0.1	0.1	0.1	0.2	0.1	0.2
Upscale Bias (%)			-0.3	-0.3	-0.3	-0.2	-0.3	-0.2
Zero Drift (%)	3 % of Span		0.0	0.0	0.0	0.1	-0.1	0.0
Upscale Drift (%)			-0.1	0.1	0.0	0.1	-0.2	0.1
Concentration Corrected for Drift, $C_d$ (ppm)		7.64	7.32	4.07	1.26	0.65	0.72	
Concentration Corrected to 7% Oxygen (ppm)		8.46	9.22	4.77	1.66	0.75	0.83	

## CEM RA Parameters

## Siemens CO with Thermox Oxygen

Run	Start Time	Stop Time	CO - RM (ppm@7%O2)	CO - CEM (ppm@7%O2)	CO (d)	CO (d)^2
1	14:38	14:58	0.754	3.97	-3.22	10.3
2	15:05	15:25	0.829	3.92	-3.09	9.6
3	15:33	15:53	0.906	3.95	-3.04	9.27
4	16:03	16:23	0.910	4.28	-3.37	11.4
5	16:29	16:49	0.777	4.03	-3.25	10.6
6	16:57	17:17	0.800	4.06	-3.26	10.6
7	17:24	17:44	1.46	4.45	-2.99	8.93
8	17:52	18:12	2.51	6.53	-4.02	16.2
9	18:22	18:42	3.68	8.16	-4.48	20.1
10	18:51	19:11	*	3.34	-5.59	31.3
Mean / Sum			1.40	4.82	-30.7	106.9

## RESULTS

## CO

Runs	9
$t_{0.975}$	2.306
$S_d$	0.502
CC	0.386
$d_m$	-3.41
RA <sup>1</sup>	271
Applicable Standard	100
RA <sup>2</sup>	3.80
<b>RA<sup>3</sup></b>	<b>3.80</b>

RA<sup>1</sup> - Relative to reference methodRA<sup>2</sup> - Relative to standardRA<sup>3</sup> - Absolute difference plus the 2.5% confidence coefficient

## CEM RA Parameters

## Siemens CO with Ametek Oxygen

Run	Start Time	Stop Time	CO - RM (ppm@7%O <sub>2</sub> )	CO - CEM (ppm@7%O <sub>2</sub> )	CO (d)	CO (d) <sup>2</sup>
1	14:38	14:58	0.75	4.06	-3.31	10.9
2	15:05	15:25	0.83	4.02	-3.19	10.2
3	15:33	15:53	0.91	4.03	-3.12	9.76
4	16:03	16:23	0.91	4.38	-3.47	12.0
5	16:29	16:49	0.78	4.13	-3.35	11.2
6	16:57	17:17	0.80	4.15	-3.35	11.2
7	17:24	17:44	1.46	4.55	-3.09	9.54
8	17:52	18:12	2.51	6.71	-4.20	17.6
9	18:22	18:42	3.68	8.37	-4.69	22.0
10	18:51	19:11	*	3.34	-5.80	33.7
Mean / Sum			1.40	4.93	-31.8	115

## RESULTS

## CO

Runs	9
t <sub>0.975</sub>	2.306
S <sub>d</sub>	0.547
CC	0.420
d <sub>m</sub>	-3.53
RA <sup>1</sup>	282
Applicable Standard	100
RA <sup>2</sup>	3.95
RA <sup>3</sup>	<b>3.95</b>

RA<sup>1</sup> - Relative to the reference method resultsRA<sup>2</sup> - Relative to the applicable standardRA<sup>3</sup> - Absolute average difference plus the 2.5% confidence coefficient

## OXYGEN

<b>Analyzer Values</b>	<b>Actual</b>	<b>Error</b>	<b>Bias</b>	<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>	<b>Run 4</b>	<b>Run 5</b>
Date		2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06
Start Time		7:17	14:32	14:38	15:05	15:33	16:03	16:29
Stop Time		7:32	14:36	14:58	15:25	15:53	16:23	16:49
Concentration, C (%)				8.83	8.66	8.75	9.64	8.99
Zero Cal Gas, C <sub>0</sub> (%)	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0
Low Cal Gas (%)	6.98	6.87						
Mid Cal Gas (%)	14.04	14.0						
High Cal Gas (%)	21.02	21.0						
Span Value (%)	25.0							
Bias/Drift Check Gas, C <sub>s</sub> (%)	13.98			13.7	13.8	13.8	13.7	13.7

**RESULTS**

Zero Error (%)	2 % of Span	-0.1						
Low Error (%)		-0.5						
Mid Error (%)		-0.3						
High Error (%)		-0.2						
Zero Bias (%)	5 % of Span		-0.1	0.0	-0.1	-0.1	-0.1	0.0
Upscale Bias (%)			-0.9	-0.8	-0.8	-0.8	-1.0	-0.9
Zero Drift (%)	3 % of Span			0.1	-0.1	0.0	0.0	0.2
Upscale Drift (%)				0.0	0.0	0.0	-0.2	0.1
Concentration Corrected for Drift, C <sub>d</sub> (%)				<b>8.99</b>	<b>8.82</b>	<b>8.91</b>	<b>9.84</b>	<b>9.18</b>

## OXYGEN

<b>Analyzer Values</b>	<b>Actual</b>	<b>Error</b>	<b>Run 6</b>	<b>Run 7</b>	<b>Run 8</b>	<b>Run 9</b>	<b>Run 10</b>
Date		2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06
Start Time		7:17	16:57	17:24	17:52	18:22	18:51
Stop Time		7:32	17:17	17:44	18:12	18:42	19:11
Concentration, C (%)			9.01	9.90	8.94	8.64	9.47
Zero Cal Gas, C <sub>0</sub> (%)	0.0	0.0	-0.1	0.0	-0.1	-0.1	0.0
Low Cal Gas (%)	6.98	6.87					
Mid Cal Gas (%)	14.04	14.0					
High Cal Gas (%)	21.02	21.0					
Span Value (%)	25.0						
Bias/Drift Check Gas, C <sub>s</sub> (%)	13.98		13.8	13.8	13.7	13.8	13.8

**RESULTS**

Zero Error (%)	2 % of Span	-0.1					
Low Error (%)		-0.5					
Mid Error (%)		-0.3					
High Error (%)		-0.2					
Zero Bias (%)	5 % of Span		-0.1	0.1	-0.1	-0.1	-0.1
Upscale Bias (%)			-0.8	-0.7	-0.9	-0.7	-0.8
Zero Drift (%)	3 % of Span		-0.1	0.2	-0.2	0.1	0.0
Upscale Drift (%)			0.1	0.1	-0.2	0.2	-0.1
Concentration Corrected for Drift, C <sub>d</sub> (%)			<b>9.19</b>	<b>10.1</b>	<b>9.10</b>	<b>8.80</b>	<b>9.63</b>

## CARBON MONOXIDE

Analyzer Values	Actual	Error	Bias	Run 1	Run 2	Run 3	Run 4	Run 5
Date		2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06
Start Time		7:17	14:32	14:38	15:05	15:33	16:03	16:29
Stop Time		7:32	14:36	14:58	15:25	15:53	16:23	16:49
Concentration, C (ppm)				0.89	0.95	1.02	0.95	0.88
Zero Cal Gas, C <sub>0</sub> (ppm)	0.0	0.1	0.3	0.2	0.2	0.2	0.2	0.2
Low Cal Gas (ppm)	30.310	31.0						
Mid Cal Gas (ppm)	61.0	60.4						
High Cal Gas (ppm)	89.8	89.4						
Span Value (ppm)	100							
Bias/Drift Check Gas, C <sub>s</sub> (ppm)	30.310		30.9	30.7	30.8	30.8	30.8	30.7

**RESULTS**

Zero Error (%)	2 % of Span	0.1						
Low Error (%)		0.7						
Mid Error (%)		-0.6						
High Error (%)		-0.4						
Zero Bias (%)	5 % of Span		0.2	0.1	0.2	0.1	0.1	0.1
Upscale Bias (%)			-0.2	-0.3	-0.2	-0.3	-0.2	-0.3
Zero Drift (%)	3 % of Span			-0.1	0.0	0.0	0.0	0.0
Upscale Drift (%)				-0.2	0.1	0.0	0.0	-0.1
Concentration Corrected for Drift, C <sub>d</sub> (ppm)				<b>0.65</b>	<b>0.72</b>	<b>0.78</b>	<b>0.72</b>	<b>0.66</b>
Concentration Corrected to 7% Oxygen (ppm)				<b>0.75</b>	<b>0.83</b>	<b>0.91</b>	<b>0.91</b>	<b>0.78</b>

## CARBON MONOXIDE

<b>Analyzer Values</b>	<b>Actual</b>	<b>Error</b>	<b>Run 6</b>	<b>Run 7</b>	<b>Run 8</b>	<b>Run 9</b>	<b>Run 10</b>
Date		2/9/06	2/9/06	2/9/06	2/9/06	2/9/06	2/9/06
Start Time		7:17	16:57	17:24	17:52	18:22	18:51
Stop Time		7:32	17:17	17:44	18:12	18:42	19:11
Concentration, C (ppm)			0.90	1.36	2.37	3.47	2.99
Zero Cal Gas, C <sub>0</sub> (ppm)	0.0	0.1	0.2	0.2	0.2	0.2	0.3
Low Cal Gas (ppm)	30.310	31.0					
Mid Cal Gas (ppm)	61.0	60.4					
High Cal Gas (ppm)	89.8	89.4					
Span Value (ppm)	100						
Bias/Drift Check Gas, C <sub>s</sub> (ppm)	30.310		30.8	30.8	30.8	30.9	30.8

**RESULTS**

Zero Error (%)	2 % of Span	0.1					
Low Error (%)		0.7					
Mid Error (%)		-0.6					
High Error (%)		-0.4					
Zero Bias (%)	5 % of Span		0.1	0.1	0.2	0.1	0.2
Upscale Bias (%)			-0.3	-0.3	-0.2	-0.2	-0.2
Zero Drift (%)	3 % of Span		0.0	0.0	0.0	0.0	0.1
Upscale Drift (%)			0.0	0.0	0.1	0.0	0.0
Concentration Corrected for Drift, C <sub>d</sub> (ppm)		0.67	1.14	2.13	3.20	2.71	
Concentration Corrected to 7% Oxygen (ppm)		0.80	1.46	2.51	3.68	3.34	

**AIRTECH ENVIRONMENTAL SERVICES INC.**  
CEM ANALYZER I.D. Data Sheet

PROJECT NO. 2282

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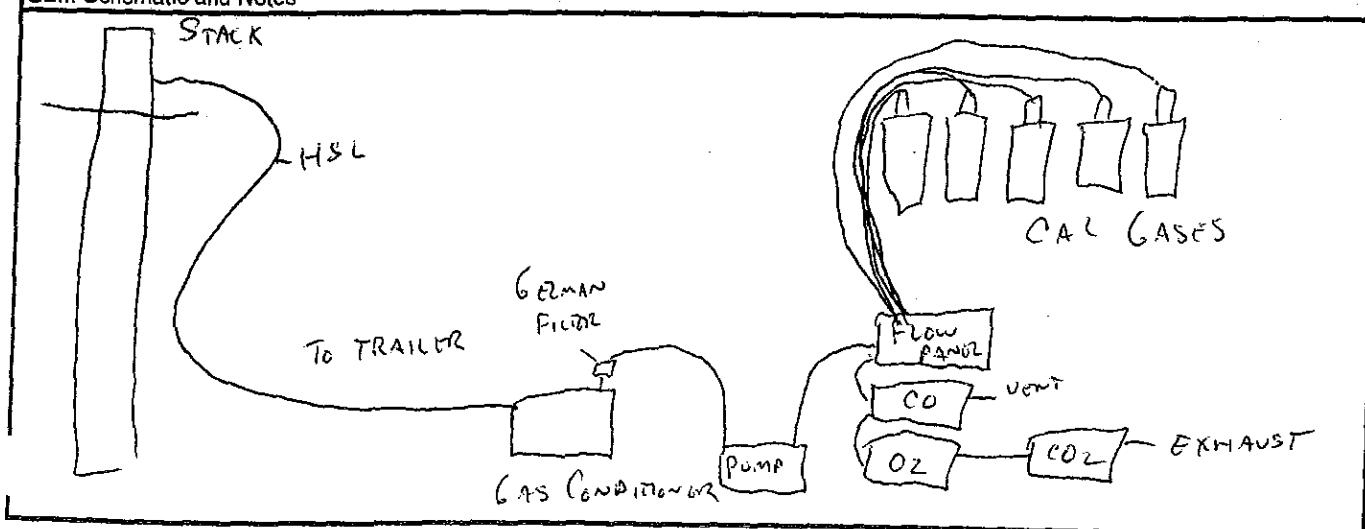
Client	FOCUS ENVIRONMENTAL, INC.		
Plant	US FILTER/WESTATES CARBON		
Location	STACK		
Date	2/7/06	Unit	
Operator/Tech	T. WELLMACH		

Analyzer Type	Model	Notes
O <sub>2</sub> SORVOMEX	1440	#2
CO <sub>2</sub> SORVOMEX	1440	#2
CO TECO	48C	#4

Cylinder Contents	Cylinder No.	PPM
CO	XCO28122B	30.310
CO	CC139856	61.0
CO	CC66653	89.8
O <sub>2</sub> /CO <sub>2</sub>	CC119293	1402/30.7
O <sub>2</sub> /CO <sub>2</sub>	S691528748A	6.28/4.23
O <sub>2</sub> (Zero Air)	SG 871803NB	21.02%

	Equipment Description Type/Lengths	USED YES/NO
Probe	Heated CAE	X
Filter	Heated CAE + GERMAN	X
HSL	100'	X
Cold Lines	N/A	X
Gas Conditioner Type	VIA MAK-3	X
Das. Computer	ARUNDA DESKTOP	X
Flow Panel	GREY 5 GAS	X

CEM Schematic and Notes



Date 2/9/2006

Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.1
High	21.0	89.4
Mid	14.0	60.4
Low	6.87	31.0
7:17:00	-0.1	89.4
7:17:15	0.0	89.4
7:17:30	0.0	89.4
7:17:45	0.0	89.4
7:18:00	-0.1	89.4
7:18:15	0.0	88.8
7:18:30	0.0	81.4
7:18:45	0.1	67.7
7:19:00	0.0	59.7
7:19:15	0.4	40.2
7:19:30	6.6	13.7
7:19:45	12.2	2.8
7:20:00	13.8	0.3
7:20:15	14.0	0.1
7:20:30	14.0	0.1
7:20:45	14.0	0.1
7:21:00	14.0	0.1
7:21:15	14.0	0.1
7:21:30	14.0	0.1
7:21:45	14.0	0.9
7:22:00	13.8	16.3
7:22:15	8.4	43.4
7:22:30	1.7	57.9
7:22:45	0.0	60.2
7:23:00	0.0	60.4
7:23:15	-0.1	60.5
7:23:30	-0.1	60.4
7:23:45	-0.1	60.3
7:24:00	-0.1	60.4
7:24:15	-0.1	59.5
7:24:30	-0.1	48.7
7:24:45	-0.1	36.1
7:25:00	-0.1	31.4
7:25:15	-0.1	31.0
7:25:30	-0.1	31.0
7:25:45	-0.1	31.1
7:26:00	-0.1	31.1
7:26:15	-0.1	31.0
7:26:30	-0.1	31.0
7:26:45	-0.1	27.7
7:27:00	1.5	13.9
7:27:15	4.6	4.4
7:27:30	8.4	0.7
7:27:45	6.8	0.0
7:28:00	6.9	-0.1
7:28:15	6.9	-0.1
7:28:30	6.9	-0.1
7:28:45	6.9	-0.1
7:29:00	6.9	-0.1
7:29:15	6.9	-0.1
7:29:30	6.9	-0.1
7:29:45	6.9	-0.1
7:30:00	6.9	0.3
7:30:15	7.4	1.2
7:30:30	13.6	1.0
7:30:45	19.7	0.6
7:31:00	20.9	0.5
7:31:15	21.0	0.5
7:31:30	20.9	0.5
7:31:45	21.0	0.5
7:32:00	21.0	0.5
7:32:15	21.0	0.5
7:32:30	21.0	0.5

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.3
Upscale	13.9	31.0

7:41:21	0.0	31.0
7:41:36	0.0	31.0
7:41:51	0.0	31.0
7:42:06	0.0	31.0
7:42:21	0.0	31.1
7:42:36	0.0	31.0
7:42:51	0.0	31.0
7:43:06	0.0	29.0
7:43:21	1.3	17.7
7:43:36	8.1	5.2
7:43:51	12.7	1.3
7:44:06	13.7	0.3
7:44:21	13.8	0.3
7:44:36	13.8	0.3
7:44:51	13.9	0.3
7:45:06	13.9	0.3
7:45:21	13.9	0.3
7:45:36	13.9	0.3
7:45:51	13.9	0.3
7:46:06	13.9	1.2

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	10.3	10.7

8:58:03	10.4	11.6
8:59:03	10.4	11.8
9:00:03	10.4	11.6
9:01:03	10.5	12.0
9:02:03	10.4	13.1
9:03:03	10.6	12.4
9:04:03	10.4	11.5
9:05:03	10.4	11.9
9:06:03	10.4	11.2
9:07:03	10.3	9.1
9:08:02	10.3	9.5
9:09:02	10.4	9.7
9:10:03	10.4	9.9
9:11:02	10.4	9.2
9:12:02	10.4	9.6
9:13:03	10.4	10.6
9:14:03	10.2	10.5
9:15:02	10.3	10.5
9:16:03	10.1	9.7
9:17:03	9.9	9.7
9:18:02	10.0	10.6
9:19:03	10.0	10.7

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.9	31.0

9:20:21	13.9	0.3
9:20:35	13.9	0.3
9:20:51	13.9	0.2
9:21:05	13.9	0.2
9:21:21	13.9	0.2
9:21:35	13.9	0.3
9:21:51	13.9	0.2
9:22:06	13.9	0.2
9:22:20	13.9	0.2
9:22:36	13.9	0.3
9:22:50	13.9	0.2
9:23:06	13.9	1.6
9:23:20	12.9	12.2
9:23:35	6.0	25.2
9:23:51	0.9	30.1
9:24:05	0.0	30.9
9:24:21	0.0	31.0
9:24:35	0.0	31.0
9:24:51	0.0	31.0
9:25:06	0.0	30.9
9:25:20	0.0	30.5

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	9.73	8.81

9:26:28	9.9	12.0
9:27:29	9.9	11.9
9:28:29	9.9	11.5
9:29:28	9.8	10.0
9:30:29	9.8	10.5
9:31:29	9.8	9.5
9:32:28	9.9	8.5
9:33:29	9.8	7.9
9:34:29	9.9	8.3
9:35:28	10.0	8.1
9:36:28	9.8	7.6
9:37:29	9.9	8.0
9:38:28	9.7	7.8
9:39:28	9.7	7.6
9:40:29	9.7	8.2
9:41:28	9.5	7.6
9:42:28	9.4	7.9
9:43:29	9.5	7.9
9:44:29	9.6	8.1
9:45:28	9.5	7.7
9:46:29	9.5	8.5

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.3
Upscale	13.8	30.9

9:49:33	0.0	30.9
9:49:49	0.0	30.9
9:50:04	0.0	30.9
9:50:18	-0.1	31.0
9:50:34	-0.1	31.0
9:50:48	-0.1	30.9
9:51:04	-0.1	29.6
9:51:18	0.9	19.1
9:51:33	7.5	5.9
9:51:49	12.4	1.4
9:52:03	13.7	0.4
9:52:19	13.8	0.3
9:52:33	13.8	0.3
9:52:49	13.8	0.3
9:53:03	13.8	0.3
9:53:18	13.8	0.2
9:53:34	13.8	1.4

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	10.0	7.31

9:55:08	10.0	7.2
9:56:08	10.1	7.3
9:57:07	10.1	6.8
9:58:08	10.2	6.7
9:59:08	10.1	6.4
10:00:07	10.2	6.6
10:01:07	10.2	6.6
10:02:08	10.1	6.6
10:03:07	10.1	7.5
10:04:07	10.0	7.8
10:05:08	10.1	7.8
10:06:07	10.1	7.4
10:07:07	10.0	7.2
10:08:08	9.9	7.4
10:09:08	9.9	7.8
10:10:07	9.7	7.1
10:11:08	9.6	7.1
10:12:08	9.8	7.5
10:13:07	9.7	8.1
10:14:07	9.7	7.9
10:15:08	9.7	8.9

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.8	30.9

10:18:06	13.8	0.2
10:18:22	13.9	0.2
10:18:37	13.9	0.2
10:18:51	13.8	0.3
10:19:07	13.8	4.2
10:19:21	10.5	19.6
10:19:37	3.1	28.0
10:19:51	0.3	30.6
10:20:07	0.0	30.8
10:20:22	0.0	30.8
10:20:36	0.0	30.8
10:20:52	0.0	30.9
10:21:06	0.0	30.9
10:21:22	0.0	30.3

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	9.40	9.12

10:22:24	9.6	8.5
10:23:25	9.8	8.4
10:24:25	9.5	7.9
10:25:24	9.5	8.4
10:26:25	9.6	8.5
10:27:25	9.5	8.3
10:28:24	9.5	8.4
10:29:24	9.4	8.4
10:30:25	9.4	8.6
10:31:24	9.3	8.1
10:32:24	9.5	8.2
10:33:25	9.5	8.6
10:34:24	9.4	8.2
10:35:24	9.5	11.1
10:36:25	9.6	11.4
10:37:25	9.1	9.0
10:38:24	9.2	10.4
10:39:25	9.2	10.6
10:40:25	9.1	10.2
10:41:24	9.1	10.7
10:42:25	9.2	9.8

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	-0.1	0.2
Upscale	13.8	30.9

10:53:25	-0.1	30.9
10:53:41	-0.1	30.9
10:53:55	-0.1	30.9
10:54:10	-0.1	30.9
10:54:26	-0.1	30.9
10:54:40	-0.1	30.9
10:54:56	-0.1	30.9
10:55:10	-0.1	30.9
10:55:26	-0.1	30.8
10:55:41	-0.1	30.8
10:55:55	-0.1	26.6
10:56:11	3.7	11.3
10:56:25	10.5	3.5
10:56:41	13.3	0.5
10:56:55	13.7	0.3
10:57:11	13.7	0.2
10:57:26	13.8	0.2
10:57:40	13.8	0.2
10:57:56	13.8	0.2
10:58:10	13.8	0.2
10:58:26	13.8	0.2
10:58:40	13.8	0.2

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	9.32	8.26

11:36:19	9.2	8.2
11:37:19	9.3	8.6
11:38:19	9.5	8.2
11:39:19	9.4	8.9
11:40:19	9.5	9.4
11:41:19	9.3	9.3
11:42:19	9.2	8.4
11:43:19	9.2	8.1
11:44:19	9.3	8.4
11:45:19	9.3	8.2
11:46:19	9.2	8.2
11:47:19	9.3	7.5
11:48:19	9.3	7.6
11:49:19	9.3	8.5
11:50:19	9.4	8.5
11:51:19	9.4	8.2
11:52:19	9.4	7.9
11:53:19	9.4	7.8
11:54:19	9.3	7.8
11:55:19	9.4	7.8
11:56:19	9.5	7.9

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.8	30.8

11:58:42	13.8	0.2
11:58:57	13.8	0.2
11:59:12	13.8	0.2
11:59:27	13.8	0.2
11:59:42	13.8	0.2
11:59:57	13.8	0.2
12:00:12	13.8	0.2
12:00:27	13.8	0.2
12:00:42	13.8	0.2
12:00:57	13.8	0.2
12:01:12	13.8	0.2
12:01:27	13.8	0.3
12:01:42	13.8	4.4
12:01:57	10.6	18.0
12:02:12	3.3	27.6
12:02:27	0.3	30.4
12:02:42	0.0	30.7
12:02:57	0.0	30.8
12:03:12	-0.1	30.8
12:03:27	-0.1	30.8
12:03:42	-0.1	30.8

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Time	D <sub>2</sub> (%)	CO (ppm)
Average	9.01	8.88

12:05:43	9.2	8.8
12:06:43	9.2	8.3
12:07:43	9.5	8.3
12:08:43	9.3	8.3
12:09:43	9.4	8.5
12:10:43	9.4	8.4
12:11:43	9.3	8.4
12:12:43	9.2	8.5
12:13:43	9.3	7.7
12:14:43	9.2	8.7
12:15:43	9.1	8.4
12:16:43	8.7	9.2
12:17:43	9.0	9.3
12:18:43	9.0	9.0
12:19:43	8.8	9.2
12:20:43	8.8	9.7
12:21:43	8.6	10.3
12:22:43	8.7	10.0
12:23:43	8.6	9.5
12:24:43	8.6	8.9
12:25:43	8.5	8.9

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	-0.1	0.2
Upscale	13.8	30.8

12:27:42	0.0	30.6
12:27:57	-0.1	30.7
12:28:12	-0.1	30.8
12:28:27	-0.1	30.8
12:28:42	-0.1	30.8
12:28:57	-0.1	30.8
12:29:12	-0.1	29.3
12:29:27	1.7	15.3
12:29:42	8.7	5.4
12:29:57	12.8	0.9
12:30:12	13.7	0.4
12:30:27	13.7	0.2
12:30:42	13.7	0.2
12:30:57	13.8	0.2
12:31:12	13.8	0.2
12:31:27	13.8	0.2
12:31:42	13.8	0.1
12:31:57	13.8	0.5

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	8.21	7.89

12:32:47	8.6	8.0
12:33:47	8.6	8.1
12:34:47	8.6	8.2
12:35:47	8.6	7.7
12:36:47	8.6	7.9
12:37:47	8.6	7.7
12:38:47	8.4	7.5
12:39:47	8.0	8.1
12:40:47	7.9	7.8
12:41:47	7.8	8.3
12:42:47	7.8	8.2
12:43:47	7.9	7.9
12:44:47	8.0	8.1
12:45:47	7.9	8.0
12:46:47	7.8	7.7
12:47:47	7.8	7.5
12:48:47	8.0	7.4
12:49:47	7.9	7.4
12:50:47	8.2	7.8
12:51:47	8.6	8.2
12:52:47	8.8	8.4

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.8	30.7

13:03:32	13.7	0.1
13:03:47	13.8	0.2
13:04:02	13.8	0.2
13:04:17	13.8	0.2
13:04:32	13.8	0.2
13:04:47	13.8	0.1
13:05:02	13.8	2.3
13:05:17	12.7	13.3
13:05:32	5.6	25.9
13:05:47	0.9	30.0
13:06:02	0.0	30.6
13:06:17	0.0	30.7
13:06:32	0.0	30.7
13:06:47	0.0	30.7
13:07:02	0.0	30.8
13:07:17	-0.1	28.0

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	9.69	7.58

13:09:09	9.6	7.6
13:10:09	9.5	7.1
13:11:09	9.6	7.5
13:12:09	9.7	7.9
13:13:09	9.6	7.6
13:14:09	9.7	8.0
13:15:09	9.8	8.1
13:16:09	9.8	8.1
13:17:09	9.8	8.3
13:18:09	9.7	7.9
13:19:09	9.9	8.1
13:20:09	9.9	7.7
13:21:09	9.8	7.8
13:22:09	9.9	7.6
13:23:09	9.9	7.7
13:24:09	9.8	7.8
13:25:09	9.7	7.4
13:26:09	9.7	7.1
13:27:09	9.7	7.1
13:28:09	9.4	6.5
13:29:09	9.4	6.4

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	-0.1	0.2
Upscale	13.7	30.8

13:31:38	0.0	30.6
13:31:53	0.0	30.8
13:32:08	-0.1	30.8
13:32:23	-0.1	30.8
13:32:38	-0.1	30.8
13:32:53	-0.1	30.8
13:33:08	-0.1	26.7
13:33:23	3.3	11.5
13:33:38	10.1	3.3
13:33:53	13.2	0.6
13:34:08	13.7	0.3
13:34:23	13.7	0.2
13:34:38	13.7	0.2
13:34:53	13.7	0.2
13:35:08	13.8	0.2
13:35:23	13.8	0.2
13:35:38	13.7	0.2

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	8.90	4.31

13:37:20	9.2	6.3
13:38:20	9.2	6.0
13:39:20	9.0	5.8
13:40:20	9.1	5.6
13:41:20	9.2	5.6
13:42:20	9.2	5.4
13:43:20	9.0	5.1
13:44:20	9.0	4.6
13:45:20	8.9	4.4
13:46:20	8.9	4.3
13:47:20	8.7	4.0
13:48:20	8.7	3.5
13:49:20	8.7	3.4
13:50:20	8.6	3.3
13:51:20	8.6	3.6
13:52:20	8.7	3.7
13:53:20	8.7	3.2
13:54:20	8.8	3.2
13:55:20	8.9	3.1
13:56:20	8.9	3.1
13:57:20	9.0	3.1

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Time	O <sub>2</sub> (%)	CD (ppm)
Zero	0.0	0.2
Upscale	13.8	30.7

14:00:15	13.8	0.2
14:00:30	13.8	0.2
14:00:45	13.8	0.2
14:01:00	13.8	0.2
14:01:15	13.8	0.2
14:01:30	13.8	0.2
14:01:45	13.8	1.4
14:02:00	12.9	13.2
14:02:15	5.9	24.9
14:02:30	0.9	30.0
14:02:45	0.0	30.7
14:03:00	0.0	30.7
14:03:15	0.0	30.7
14:03:30	0.0	30.7
14:03:45	0.0	30.8
14:04:00	0.0	30.6

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	10.1	1.51

14:09:50	10.0	3.1
14:10:50	9.8	2.4
14:11:50	9.7	2.3
14:12:50	9.9	1.7
14:13:50	10.1	1.6
14:14:50	10.2	1.5
14:15:50	10.3	1.5
14:16:50	10.4	1.4
14:17:50	10.5	1.3
14:18:50	10.2	1.4
14:19:50	10.4	1.3
14:20:50	10.4	1.2
14:21:50	10.3	1.2
14:22:50	10.3	1.2
14:23:50	10.2	1.2
14:24:50	10.2	1.3
14:25:50	10.2	1.3
14:26:50	10.1	1.3
14:27:50	10.0	1.1
14:28:50	9.9	1.1
14:29:50	9.8	1.1

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	-0.1	0.3
Upscale	13.75	30.9

14:32:06	0.0	30.9
14:32:21	-0.1	30.9
14:32:36	-0.1	30.8
14:32:51	-0.1	30.9
14:33:06	0.0	30.9
14:33:21	-0.1	30.9
14:33:36	-0.1	30.8
14:33:51	-0.1	30.8
14:34:06	-0.1	30.7
14:34:21	-0.1	26.2
14:34:36	3.3	13.1
14:34:51	10.2	3.2
14:35:06	13.2	0.7
14:35:21	13.7	0.3
14:35:36	13.7	0.3
14:35:51	13.8	0.2
14:36:06	13.7	0.3
14:36:21	13.8	0.3
14:36:36	13.8	0.3
14:36:51	13.3	0.8

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	8.83	0.89

14:38:25	9.5	1.0
14:39:25	9.4	1.0
14:40:25	9.1	0.9
14:41:25	9.0	0.9
14:42:25	9.0	0.8
14:43:25	8.8	0.9
14:44:25	8.9	1.0
14:45:25	9.1	0.9
14:46:25	9.0	1.0
14:47:25	8.9	0.9
14:48:25	8.7	0.8
14:49:25	8.6	0.8
14:50:25	8.6	0.8
14:51:25	8.5	0.8
14:52:25	8.7	0.8
14:53:25	8.6	0.9
14:54:25	8.6	0.9
14:55:25	8.7	0.9
14:56:25	8.7	0.9
14:57:25	8.7	0.9
14:58:25	8.7	0.9

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.8	30.7

15:00:21	13.7	0.2
15:00:36	13.7	0.2
15:00:51	13.8	0.2
15:01:06	13.8	0.2
15:01:21	13.8	0.2
15:01:36	13.8	0.2
15:01:51	13.8	1.6
15:02:06	13.0	12.1
15:02:21	6.2	24.9
15:02:36	1.1	29.8
15:02:51	0.0	30.7
15:03:06	0.0	30.7
15:03:21	0.0	30.7
15:03:36	0.0	30.7
15:03:51	0.0	30.7
15:04:06	-0.1	30.7
15:04:21	-0.1	28.4

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	8.66	0.95

15:05:30	8.5	1.0
15:06:30	8.6	0.9
15:07:30	8.6	0.9
15:08:30	8.6	0.9
15:09:30	8.6	1.0
15:10:30	8.7	1.0
15:11:30	8.6	0.9
15:12:30	8.6	0.9
15:13:30	8.6	0.9
15:14:30	8.7	1.0
15:15:30	8.9	0.9
15:16:30	8.7	0.9
15:17:30	8.7	1.0
15:18:30	8.7	1.0
15:19:30	8.7	1.0
15:20:30	8.7	0.9
15:21:30	8.7	0.8
15:22:30	8.6	1.0
15:23:30	8.7	1.0
15:24:30	8.7	1.0
15:25:30	8.8	1.0

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.8	30.8

15:27:46	0.4	30.6
15:28:01	0.1	30.7
15:28:16	-0.1	30.8
15:28:31	0.0	30.8
15:28:46	0.0	30.8
15:29:01	-0.1	30.8
15:29:16	-0.1	29.4
15:29:31	0.9	18.6
15:29:46	7.4	6.3
15:30:01	12.3	1.3
15:30:16	13.6	0.4
15:30:31	13.7	0.3
15:30:46	13.7	0.2
15:31:01	13.7	0.2
15:31:16	13.7	0.2
15:31:31	13.8	0.2
15:31:46	13.7	0.2
15:32:01	13.8	0.2
15:32:16	13.8	0.3

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Time	O <sub>2</sub> (%)	CD (ppm)
Zero	0.0	0.1
High	21.0	89.4
Mld	14.0	60.4
Low	6.87	31.0
7:17:00	-0.1	89.4
7:17:15	0.0	89.4
7:17:30	0.0	89.4
7:17:45	0.0	89.4
7:18:00	-0.1	89.4
7:18:15	0.0	88.8
7:18:30	0.0	81.4
7:18:45	0.1	67.7
7:19:00	0.0	59.7
7:19:15	0.4	40.2
7:19:30	6.6	13.7
7:19:45	12.2	2.8
7:20:00	13.8	0.3
7:20:15	14.0	0.1
7:20:30	14.0	0.1
7:20:45	14.0	0.1
7:21:00	14.0	0.1
7:21:15	14.0	0.1
7:21:30	14.0	0.1
7:21:45	14.0	0.9
7:22:00	13.8	16.3
7:22:15	8.4	43.4
7:22:30	1.7	57.9
7:22:45	0.0	60.2
7:23:00	0.0	60.4
7:23:15	-0.1	60.5
7:23:30	-0.1	60.4
7:23:45	-0.1	60.3
7:24:00	-0.1	60.4
7:24:15	-0.1	59.5
7:24:30	-0.1	48.7
7:24:45	-0.1	36.1
7:25:00	-0.1	31.4
7:25:15	-0.1	31.0
7:25:30	-0.1	31.0
7:25:45	-0.1	31.1
7:26:00	-0.1	31.1
7:26:15	-0.1	31.0
7:26:30	-0.1	31.0
7:26:45	-0.1	27.7
7:27:00	1.5	13.9
7:27:15	4.6	4.4
7:27:30	6.4	0.7
7:27:45	6.8	0.0
7:28:00	6.9	-0.1
7:28:15	6.9	-0.1
7:28:30	6.9	-0.1
7:28:45	6.9	-0.1
7:29:00	6.9	-0.1
7:29:15	6.9	-0.1
7:29:30	6.9	-0.1
7:29:45	6.9	-0.1
7:30:00	6.9	0.3
7:30:15	7.4	1.2
7:30:30	13.6	1.0
7:30:45	19.7	0.6
7:31:00	20.9	0.5
7:31:15	21.0	0.5
7:31:30	20.9	0.5
7:31:45	21.0	0.5
7:32:00	21.0	0.5
7:32:15	21.0	0.5
7:32:30	21.0	0.5

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	-0.1	0.3
Upscale	13.7	30.9

14:32:06	0.0	30.9
14:32:21	-0.1	30.9
14:32:36	-0.1	30.8
14:32:51	-0.1	30.9
14:33:06	0.0	30.9
14:33:21	-0.1	30.9
14:33:36	-0.1	30.8
14:33:51	-0.1	30.6
14:34:06	-0.1	30.7
14:34:21	-0.1	26.2
14:34:36	3.3	13.1
14:34:51	10.2	3.2
14:35:06	13.2	0.7
14:35:21	13.7	0.3
14:35:36	13.7	0.3
14:35:51	13.8	0.2
14:36:06	13.7	0.3
14:36:21	13.8	0.3
14:36:36	13.8	0.3
14:36:51	13.3	0.8

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	8.83	0.89

14:38:25	9.5	1.0
14:39:25	9.4	1.0
14:40:25	9.1	0.9
14:41:25	9.0	0.9
14:42:25	9.0	0.8
14:43:25	8.8	0.9
14:44:25	8.9	1.0
14:45:25	9.1	0.9
14:46:25	9.0	1.0
14:47:25	8.9	0.9
14:48:25	8.7	0.8
14:49:25	8.6	0.8
14:50:25	8.6	0.8
14:51:25	8.5	0.8
14:52:25	8.7	0.8
14:53:25	8.6	0.9
14:54:25	8.6	0.9
14:55:25	8.7	0.9
14:56:25	8.7	0.9
14:57:25	8.7	0.9
14:58:25	8.7	0.9

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.8	30.7

15:00:21	13.7	0.2
15:00:36	13.7	0.2
15:00:51	13.8	0.2
15:01:06	13.8	0.2
15:01:21	13.8	0.2
15:01:36	13.8	0.2
15:01:51	13.8	1.6
15:02:06	13.0	12.1
15:02:21	6.2	24.9
15:02:36	1.1	29.8
15:02:51	0.0	30.7
15:03:06	0.0	30.7
15:03:21	0.0	30.7
15:03:36	0.0	30.7
15:03:51	0.0	30.7
15:04:06	-0.1	30.7
15:04:21	-0.1	28.4

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	8.66	0.95

15:05:30	8.5	1.0
15:06:30	8.6	0.9
15:07:30	8.6	0.9
15:08:30	8.6	0.9
15:09:30	8.6	1.0
15:10:30	8.7	1.0
15:11:30	8.6	0.9
15:12:30	8.6	0.9
15:13:30	8.6	0.9
15:14:30	8.7	1.0
15:15:30	8.9	0.9
15:16:30	8.7	0.9
15:17:30	8.7	1.0
15:18:30	8.7	1.0
15:19:30	8.7	1.0
15:20:30	8.7	0.9
15:21:30	8.7	0.8
15:22:30	8.6	1.0
15:23:30	8.7	1.0
15:24:30	8.7	1.0
15:25:30	8.8	1.0

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.8	30.8

15:27:46	0.4	30.6
15:28:01	0.1	30.7
15:28:16	-0.1	30.8
15:28:31	0.0	30.8
15:28:46	0.0	30.8
15:29:01	-0.1	30.8
15:29:16	-0.1	29.4
15:29:31	0.9	18.6
15:29:46	7.4	6.3
15:30:01	12.3	1.3
15:30:16	13.6	0.4
15:30:31	13.7	0.3
15:30:46	13.7	0.2
15:31:01	13.7	0.2
15:31:16	13.7	0.2
15:31:31	13.8	0.2
15:31:46	13.7	0.2
15:32:01	13.8	0.2
15:32:16	13.8	0.3

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Time	O <sub>2</sub> (%)	CD (ppm)
Average	8.75	1.02

15:33:52	8.6	1.0
15:34:52	8.7	1.0
15:35:52	8.7	1.1
15:36:52	8.7	1.0
15:37:52	8.7	1.1
15:38:52	8.8	1.0
15:39:52	8.8	1.0
15:40:52	8.6	1.0
15:41:52	8.7	1.1
15:42:52	8.8	1.1
15:43:52	8.9	1.1
15:44:52	8.9	1.0
15:45:52	8.9	0.9
15:46:52	8.8	0.9
15:47:52	8.7	0.9
15:48:52	8.7	0.9
15:49:52	8.7	0.9
15:50:52	8.7	1.0
15:51:52	8.8	1.1
15:52:52	8.8	1.1
15:53:52	8.9	1.0

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	-0.1	0.2
Upscale	13.8	30.8

15:56:54	13.7	0.2
15:57:09	13.7	0.2
15:57:24	13.7	0.2
15:57:39	13.7	0.2
15:57:54	13.8	0.2
15:58:09	13.7	0.2
15:58:24	13.8	0.2
15:58:39	13.8	0.2
15:58:54	13.7	0.7
15:59:09	13.6	7.9
15:59:24	8.7	21.4
15:59:39	2.1	29.2
15:59:54	0.1	30.6
16:00:09	0.0	30.7
16:00:24	0.0	30.8
16:00:39	-0.1	30.8
16:00:54	0.0	30.8
16:01:09	-0.1	30.8
16:01:24	-0.1	30.8
16:01:39	-0.1	30.8
16:01:54	-0.1	26.3

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	9.64	0.95

16:03:58	9.9	1.0
16:04:58	10.0	0.9
16:05:58	10.0	1.0
16:06:58	10.0	0.9
16:07:58	9.7	0.9
16:08:58	9.7	0.9
16:09:58	9.8	0.9
16:10:58	9.6	0.8
16:11:58	9.6	0.8
16:12:58	9.5	0.8
16:13:58	9.6	0.9
16:14:58	9.7	1.0
16:15:58	9.6	0.9
16:16:58	9.6	0.9
16:17:58	9.5	0.9
16:18:58	9.4	0.9
16:19:58	9.5	0.8
16:20:58	9.4	0.9
16:21:58	9.4	0.9
16:22:58	9.6	0.9
16:23:58	9.6	2.1

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	-0.1	0.2
Upscale	13.7	30.8

16:24:46	0.0	30.6
16:25:01	0.0	30.7
16:25:16	-0.1	30.8
16:25:31	-0.1	30.8
16:25:46	-0.1	30.8
16:26:01	-0.1	30.8
16:26:16	-0.1	30.7
16:26:31	0.0	24.8
16:26:46	4.1	10.2
16:27:01	10.7	2.8
16:27:16	13.3	0.5
16:27:31	13.7	0.3
16:27:46	13.7	0.2
16:28:01	13.7	0.2
16:28:16	13.7	0.2
16:28:31	13.7	0.2
16:28:46	13.7	0.3

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	8.99	0.88

16:29:32	9.4	0.8
16:30:32	9.5	0.8
16:31:32	9.4	0.8
16:32:32	9.4	0.8
16:33:32	9.4	0.9
16:34:32	9.3	0.9
16:35:32	9.3	0.8
16:36:32	9.3	0.8
16:37:32	9.2	0.9
16:38:32	9.1	0.9
16:39:32	9.0	0.9
16:40:32	8.9	0.9
16:41:32	8.9	1.0
16:42:32	8.8	1.0
16:43:32	8.7	0.9
16:44:32	8.7	0.9
16:45:32	8.7	0.9
16:46:32	8.7	0.9
16:47:32	8.5	0.8
16:48:32	8.4	0.9
16:49:32	8.4	0.8

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.7	30.7

16:51:49	13.7	0.2
16:52:04	13.7	0.2
16:52:19	13.7	0.2
16:52:34	13.7	0.2
16:52:49	13.7	0.2
16:53:04	13.7	0.3
16:53:19	13.7	3.9
16:53:34	10.9	17.9
16:53:49	3.6	27.4
16:54:04	0.4	30.5
16:54:19	0.0	30.7
16:54:34	0.0	30.7
16:54:49	-0.1	30.8
16:55:04	-0.1	30.8
16:55:19	-0.1	29.7

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	9.01	0.90

16:57:57	8.1	0.9
16:58:57	8.1	1.0
16:59:57	8.0	0.8
17:00:57	8.1	0.8
17:01:57	8.3	0.9
17:02:57	8.5	0.8
17:03:57	8.7	0.9
17:04:57	8.9	0.9
17:05:57	9.0	0.9
17:06:57	9.2	0.8
17:07:57	9.3	0.9
17:08:57	9.3	0.9
17:09:57	9.4	0.9
17:10:57	9.4	0.9
17:11:57	9.5	0.8
17:12:57	9.5	0.8
17:13:57	9.6	1.0
17:14:57	9.5	0.9
17:15:57	9.7	1.0
17:16:57	9.7	0.9
17:17:57	9.7	1.3

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	-0.1	0.2
Upscale	13.8	30.8

17:18:53	0.0	30.7
17:19:08	0.0	30.8
17:19:23	0.0	30.8
17:19:38	-0.1	30.8
17:19:53	-0.1	30.8
17:20:08	-0.1	30.8
17:20:23	-0.1	27.5
17:20:38	2.2	15.2
17:20:53	9.2	3.8
17:21:08	13.0	0.9
17:21:23	13.7	0.3
17:21:38	13.7	0.2
17:21:53	13.7	0.2
17:22:08	13.7	0.2
17:22:23	13.8	0.2
17:22:38	13.8	0.2
17:22:53	13.8	0.2

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	9.90	1.36

17:24:38	9.8	1.0
17:25:38	9.8	1.1
17:26:38	9.9	1.1
17:27:38	10.0	1.1
17:28:38	10.0	1.1
17:29:38	9.9	1.1
17:30:38	10.0	1.2
17:31:38	10.1	1.2
17:32:38	10.1	1.3
17:33:38	10.1	1.3
17:34:38	10.1	1.4
17:35:38	10.0	1.5
17:36:36	10.0	1.5
17:37:36	10.0	1.4
17:36:38	9.9	1.5
17:39:38	9.8	1.5
17:40:38	9.8	1.6
17:41:38	9.8	1.6
17:42:38	9.7	1.6
17:43:38	9.6	1.6
17:44:38	9.5	1.7

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.2
Upscale	13.8	30.8

17:46:39	13.7	0.2
17:46:54	13.8	0.2
17:47:09	13.8	0.2
17:47:24	13.8	0.2
17:47:39	13.8	0.1
17:47:54	13.8	0.2
17:48:09	13.8	2.9
17:48:24	12.1	15.1
17:48:39	4.7	26.4
17:48:54	0.6	30.3
17:49:09	0.0	30.7
17:49:24	0.0	30.8
17:49:39	0.0	30.8
17:49:54	0.0	30.8
17:50:09	0.0	30.8
17:50:24	0.0	30.4

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	8.94	2.37

17:52:09	9.4	2.1
17:53:09	9.2	2.1
17:54:09	9.1	2.1
17:55:09	9.0	2.2
17:56:09	9.0	2.5
17:57:09	9.0	2.4
17:58:09	9.0	2.4
17:59:09	9.1	2.3
18:00:09	9.0	2.4
18:01:09	9.0	2.4
18:02:09	9.1	2.3
18:03:09	8.9	2.2
18:04:09	8.9	2.5
18:05:09	8.9	2.3
18:06:09	8.7	2.4
18:07:09	8.8	2.4
18:08:09	8.9	2.4
18:09:09	8.8	2.6
18:10:09	8.8	2.5
18:11:09	8.7	2.6
18:12:09	8.7	2.5

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Time	O <sub>2</sub> (%)	CO (ppm)
Zero	-0.1	0.2
Upscale	13.7	30.8

18:16:46	-0.1	30.8
18:17:00	-0.1	30.8
18:17:16	-0.1	30.8
18:17:30	-0.1	30.9
18:17:46	-0.1	30.8
18:18:00	-0.1	30.8
18:18:15	-0.1	30.0
18:18:31	0.8	18.7
18:18:45	7.4	6.9
18:19:01	12.4	1.2
18:19:15	13.6	0.4
18:19:31	13.7	0.3
18:19:46	13.7	0.2
18:20:00	13.7	0.2
18:20:16	13.7	0.2
18:20:30	13.7	0.2
18:20:46	13.7	0.3
18:21:00	13.7	0.8
18:21:16	12.2	2.0
18:21:31	9.6	2.9
18:21:45	9.1	3.0

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Time	O <sub>2</sub> (%)	CO (ppm)
Average	8.64	3.47

18:22:39	9.1	2.6
18:23:40	9.0	3.0
18:24:40	9.0	3.0
18:25:39	8.9	3.2
18:26:39	8.9	3.4
18:27:40	8.9	3.6
18:28:39	8.9	3.6
18:29:39	8.8	3.8
18:30:40	8.7	3.6
18:31:39	8.5	3.8
18:32:39	8.8	3.5
18:33:40	8.4	3.7
18:34:40	8.0	4.2
18:35:39	8.2	4.3
18:36:40	8.3	3.7
18:37:40	8.3	3.4
18:38:39	8.6	3.4
18:39:40	8.5	3.2
18:40:40	8.7	3.2
18:41:39	8.4	3.2
18:42:39	8.5	3.2

Date 2/9/2006

Time	O <sub>2</sub> (%)	CD (ppm)
Zero	-0.1	0.2
Upscale	13.8	30.9

18:45:28	13.7	0.2
18:45:44	13.8	0.2
18:45:58	13.8	0.2
18:46:13	13.8	0.2
18:46:29	13.8	0.2
18:46:43	13.8	0.2
18:46:58	13.8	2.9
18:47:13	12.1	14.6
18:47:29	4.8	26.7
18:47:43	0.6	30.2
18:47:58	0.0	30.7
18:48:14	0.0	30.7
18:48:28	0.0	30.8
18:48:44	0.0	30.8
18:48:58	-0.1	30.8
18:49:14	0.0	30.9
18:49:29	-0.1	30.9
18:49:43	-0.1	30.8

Date 2/9/2006

Time	O <sub>2</sub> (%)	CO (ppm)
Average	9.47	2.99

18:51:31	8.9	3.5
18:52:30	8.9	3.6
18:53:31	8.9	3.6
18:54:31	8.8	3.7
18:55:30	8.9	3.8
18:56:30	8.9	3.5
18:57:31	8.9	3.8
18:58:30	9.0	3.4
18:59:30	9.0	3.5
19:00:31	9.3	3.2
19:01:30	9.6	2.9
19:02:30	9.7	2.7
19:03:31	10.0	2.8
19:04:31	10.1	2.5
19:05:30	10.2	2.2
19:06:31	10.0	2.2
19:07:31	10.1	2.5
19:08:30	10.1	2.4
19:09:30	9.9	2.2
19:10:31	9.9	2.3
19:11:30	10.0	2.4

Date 2/9/2006

Time	O <sub>2</sub> (%)	CO (ppm)
Zero	0.0	0.3
Upscale	13.76	30.8

19:14:15	-0.1	30.8
19:14:30	0.0	30.8
19:14:46	-0.1	30.8
19:15:00	-0.1	30.8
19:15:16	-0.1	30.9
19:15:30	-0.1	30.9
19:15:46	-0.1	30.5
19:16:01	0.1	24.1
19:16:15	5.1	9.9
19:16:31	11.2	2.4
19:16:45	13.5	0.5
19:17:01	13.7	0.3
19:17:15	13.7	0.3
19:17:31	13.7	0.3
19:17:46	13.8	0.3
19:18:00	13.8	0.3
19:18:16	13.8	0.3
19:18:30	13.8	0.3
19:18:46	13.8	0.3
19:19:00	13.8	0.3
19:19:15	14.0	0.4



# Certificate of Analysis

For: Linweld - Denver

Date: 8/6/2004

Gas Description: KAL 7% O2/ 14% CO2/ N2 Certified

Linweld #: LW445Y      Type: Certified Mixture  
Serial #: SG9152874      Cylinder Size: KAL  
Lot #: 1SG061104      Test Cylinder: SG9152874

Test Required	Method of Test	Requested	Actual
Oxygen, UHP	NIST Weights	7%	6.98%
Carbon Dioxide	NIST Weights	14%	14.23%
Nitrogen	NIST Weights	Balance	Balance

Comments: \*This cylinder was used in the batch sampling of this lot.  
  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Analyzed By:

8-6-04

## NIST STATEMENT

Product composition verified by instrumentation calibrated with at least one of the following: NIST traceable weights, gas mixtures traceable to NIST weights, NIST gas standards, manufacturer NIST calibrations.

Analytical accuracies are listed in the LINWELD Specialty Gases and Equipment Catalog.

*This cylinder meets or exceeds the requested standards listed above.*

Linweld Specialty Gas Division  
9920 Deer Park Rd.  
Waverly, NE 68462-0190

## CERTIFICATE OF ANALYSIS

Date: 9/17/2003 Reference Number: 18-46864800-001

Customer Name: AIRGAS INTERMOUNTAIN  
LOCATION D13 CHEYENNE WY  
1001 DUNN AVE

Grade Of Product: Certified Standard

<u>Cylinder Number</u>	<u>Component</u>	<u>Requested Concentration</u>	<u>Actual Concentration</u>
CC119293	Carbon Dioxide	7.000 %	7.076 %
	Oxygen	14.00 %	14.04 %
	Nitrogen	Balance	Balance

Note:

**Relative Uncertainty of Analytical Value: +/- 2% of component or +/- 5% of component, if less than 50 PPM**

**Product composition verified by direct comparison to calibration standards traceable to NIST weights and/or NIST gas mixture reference materials**



Approval Signature



# Certificate of Analysis (Lot)

For: Linweld

Date: 5/21/2004

Gas Description: KAL ZERO AMBIENT AIR

Linweld #: AC716 Type: Pure Gas  
Serial #: SEE COMMENTS Cylinder Size: KAL  
Lot #: 1SG052004 Test Cylinder: \*CC77418

Test Required	Method of Test	Requested	Actual
Oxygen	NIST Weights	21%	21.02%
Nitrogen	NIST Weights	Balance	Balance
Hydrocarbon Test	Flame Ionization	< 0.1 PPM	< 0.1 PPM
Carbon Dioxide Test	Infrared Analyzer	< 1 PPM	< 1 PPM
Carbon Monoxide Test	Detector Tube	< 0.5 PPM	< 0.5 PPM
NOx	Detector Tube	< 0.1 PPM	< 0.1 PPM
SO2	Detector Tube	< 0.1 PPM	< 0.1 PPM

Comments: \*This cylinder was used in the batch sampling of this lot. The following cylinders were part of this lot: CC77418, SG9140398, SG9120738, SG9119649, SG9163941, 871803.

Analyzed By:

Carl P. Zitter 5-21-04

## NIST STATEMENT

Product composition verified by instrumentation calibrated with at least one of the following: NIST traceable weights, gas mixtures traceable to NIST weights, NIST gas standards, manufacturer NIST calibrations. Analytical accuracies are listed in the LINWELD Specialty Gases and Equipment Catalog.

*This cylinder meets or exceeds the requested standards listed above.*

Linweld Specialty Gas Division  
9920 Deer Park Rd.  
Waverly, NE 68462-0190

## Certificate of Analysis: EPA Protocol Gas Mixture

Cylinder Number: XC028122B Reference Number: 32-112340276-1  
Cylinder Pressure: 1998.6 PSIG Expiration Date: 8/27/2007  
Certification Date: 8/27/2004 Laboratory: MIQ - Royal Oak - MI

### Certified Concentrations

Component	Concentration	Accuracy	Analytical Principle	Procedure
CARBON MONOXIDE	30.310 PPM	+/- 1%	Nondispersive Infrared (NDIR)	G1
NITROGEN	Balance			

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences.

Notes: AIRGAS NORTH CENTRAL

Do not use cylinder below 150 psig.

Approval Signature A. F. Muhammad

### Reference Standard Information

Type	Component	Cyl.Number	Concentration
MTRM 8103	CARBON MONOXIDE	XC0131186	30.39 PPM

XC0131186

### Analytical Results

#### 1st Component CARBON MONOXIDE

1st Analysis Date: 07/20/2004

R 4.97	S 3.04	Z 0.00	Conc 30.33 PPM
S 3.04	Z 0.00	R 4.97	Conc 30.33 PPM
Z 0.00	R 4.97	S 3.04	Conc 30.33 PPM
			AVG: 30.33 PPM

2nd Analysis Date: 08/27/2004

R 4.96	S 3.03	Z 0.0	Conc 30.29 PPM
S 3.03	Z 0.0	R 4.96	Conc 30.29 PPM
Z 0.0	R 4.96	S 3.03	Conc 30.29 PPM
			AVG: 30.29 PPM



# CERTIFICATE of ANALYSIS

## Interference-Free Multi-Component EPA Protocol Gases

NOTE: Analytical uncertainty and NIST traceability are in compliance with EPA-600/R-97/121

Section 2.2

Procedure: G-1

Cyl. Number: CC139856

Customer: LINWELD  
P.O. Number: SG04597  
Item Number: AC463A  
Notes:

Shipping Order #: 16941259  
Transfer #: 16941259  
LOT #: LPX122101  
Valve CGA350  
Cyl. Pressure: \* 1900psig

Assay Date: 6-Jul-05

Expiration Date: 5-Jul-08

\*Cylinder should not be used when gas pressure is below 150 psig

Component	Requested Concentration	Assay Concentration
Carbon Monoxide	60 ppm	61.0 ±0.7 ppm
Nitrogen	Balance	Balance

Reference Standard(s) Employed For Analysis:

Std name	Std #	Conc.	Units	Std. Error	Comp.	Balance	Cyl. No.	Exp. Date	Sample No.
GMIS252	GMIS252	103.0	ppm	1.0	CO	N2	CC52885	7/20/2006	N.A.

Analysis Information:

Analyzer Information	Manufacturer: KVB/Analact	Model Number: EN3024	Serial Number: 3024	Analytical Principle: FTIR	Component 1: Carbon Monoxide				Component 2: Nitrogen			
					First Triad Analysis On: 6/26/2005			Second Triad Analysis On: 7/6/2005			Trial 1	Trial 2
MPC Calibrated: 06/09/05					Zero	-0.40	-0.04	-0.31	Zero	-0.09	-0.09	-0.15
					Reference	97.66	97.38	98.04	Reference	98.13	98.62	98.06
					Candidate	57.36	57.97	57.66	Candidate	58.07	58.27	58.22
					Result	60.58	61.23	60.80	Result	60.94	61.14	61.09
						Mean Result: 60.87 ppm				Mean Result: 61.06 ppm		

Analyst Signature:

Bryan Leger

Calculated by:

M. Adnane



## CERTIFICATE of ANALYSIS

### Interference-Free Multi-Component EPA Protocol Gases

NOTE: Analytical uncertainty and NIST traceability are in compliance with EPA-600/R-97/121

Section 2.2

Procedure: G-1

Cyl. Number: CC66653

Customer: LINWELD  
P.O. Number: SG04597  
Item Number: AC463B  
Notes:

Shipping Order #: 16941259  
Transfer #: 16941259  
LOT #: LPX122102  
Valve CGA350  
Cyl. Pressure: \* 1900psig

Assay Date: 6-Jul-05      Expiration Date: 5-Jul-08

\*Cylinder should not be used when gas pressure is below 150 psig

Component	Requested Concentration	Assay Concentration
Carbon Monoxide	90 ppm	89.8 ±0.9 ppm
Nitrogen	Balance	Balance

#### Reference Standard(s) Employed For Analysis:

Std name	Std #	Conc.	Units	Std. Error	Comp.	Balance	Cyl. No.	Exp. Date	Sample No.
GMIS252	GMIS252	103.0	ppm	1.0	CO	N2	CC52885	7/20/2006	N.A.

#### Analysis Information:

Component: Carbon Monoxide		First Triad Analysis On: 6/28/2005				Second Triad Analysis On: 7/6/2005			
Analyzer information		Trial 1	Trial 2	Trial 3	Units	Trial 1	Trial 2	Trial 3	Units
Manufacturer:	KVB/Analect	Zero	-0.48	-8.04	-0.31	Zero	-0.89	-0.00	-8.15
Model Number:	EN3024	Reference	97.66	97.38	99.04	Reference	98.13	98.62	88.86
Serial Number:	3024	Candidate	86.82	86.28	86.44	Candidate	85.48	86.35	86.84
Analytical Principle:	FTIR	Result	89.68	89.86	90.12	Result	89.64	89.51	90.23
MPC Calibrated:	06/09/05				ppm				ppm
		Mean Result:	89.89	ppm		Mean Result:	89.79	ppm	

Analyst Signature:

Bryan Leger

calculated by:

M. Adnan e

AIRTECH ENVIRONMENTAL SERVICES INC.  
Calibration Error Data Sheet

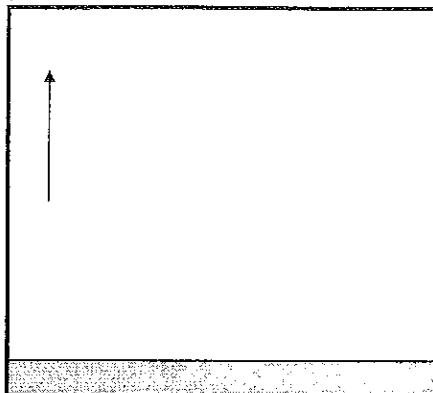
PROJECT NO. 2282

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Client	Us Filter Westates
Plant	Parker Az
Date	2-8-06
Operator	Cliff Anderson
Analyzer I.D.	
Analyzer Type	THERMOX (NEW)
Date of Most Recent Service	

Initial Settings	
Zero	
Span	

Final Settings	
Zero	
Span	



Low Level	Trial	Date	Time	Calibration Value (%)	Monitor Response (%)	Difference (%)
	1	2-8-06	1420	2.03	2.05	0.02%
	2	2-8-06	1500	2.03	2.05	0.02%
	3	2-8-06	1540	2.03	2.05	0.02%

Mid Level	Trial	Date	Time	Calibration Value (%)	Monitor Response (%)	Difference (%)
	1	2-8-06	1425	7.02	6.95	-0.07%
	2	2-8-06	1505	7.02	6.94	-0.08%
	3	2-8-06	1545	7.02	6.94	-0.08%

High Level	Trial	Date	Time	Calibration Value (%)	Monitor Response (%)	Difference (%)
	1	2-8-06	1430	0.0	.15	0.15%
	2	2-8-06	1510	0.0	.15	0.15%
	3	2-8-06	1550	0.0	.15	0.15%

Notes:
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AIRTECH ENVIRONMENTAL SERVICES INC.  
Calibration Error Data Sheet

PROJECT NO. \_\_\_\_\_

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Client	Us Filter Westates
Plant	Parker Az
Date	2-8-06
Operator	Cliff Anderson
Analyzer I.D.	
Analyzer Type	thermax O <sub>2</sub> (new)
Date of Most Recent Service	

Initial Settings		Final Settings	
Zero		Zero	
Span		Span	

↑

Trial Level	Trial	Date	Time	Calibration	Monitor	Difference
				Value (%)	Response (%)	(%)
	1	2-8-06	1355	2.03	2.03	0.01
	2	2-8-06	1440	2.03	2.05	.02
	3	2-8-06	1520	2.03	2.04	.01

Trial Level	Trial	Date	Time	Calibration	Monitor	Difference
				Value (%)	Response (%)	(%)
	1	2-8-06	1400	15.06	14.92	-0.14
	2	2-8-06	1445	15.06	14.97	-0.09
	3	2-8-06	1520	15.06	14.97	-0.09

Trial Level	Trial	Date	Time	Calibration	Monitor	Difference
				Value (%)	Response (%)	(%)
	1	2-8-06	1405	0.0	.18	.18
	2	2-8-06	1450	0.0	.19	.19
	3	2-8-06	1530	0.0	.18	.18

NOT  
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Notes:

AIRTECH ENVIRONMENTAL SERVICES INC.  
Calibration Error Data Sheet

PROJECT NO. 2282

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Client	U.S Filter Westates
Plant	Parker Az
Date	2-8-06
Operator	Cliff Anderson
Analyzer ID.	
Analyzer Type	Siemens UltraMat CO
Date of Most Recent Service	

Initial Settings	
Zero	
Span	

Final Settings	
Zero	
Span	

Low Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-8-06	1420	0.0	3.0	0.30%
	2	2-8-06	1500	0.0	3.1	3.1%
	3	2-8-06	1540	0.0	3.0	0.0%

Mid Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
		2-8-06	1425	96.2	95.9	-0.003%
	2	2-8-06	1505	96.2	96.3	+0.001%
	3	2-8-06	1545	96.2	98.2	+2.0%

$0.003\%$       pl  
 $+0.001\%$       3      pc  
 $+0.001\%$       .1  
 $+2.0\%$       .001

High Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-8-06	1430	99.4	1004.6	1.06
	2	2-8-06	1510	99.4	1005.2	1.12
	3	2-8-06	1550	99.4	1004.8	1.08

Notes:

AIRTECH ENVIRONMENTAL SERVICES INC.  
Calibration Error Data Sheet

PROJECT NO. 2282

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Client	US FILTER WESTATES
Plant	PARKER AZ
Date	2-08-06
Operator	Cliff Anderson
Analyzer ID	
Analyzer type	Siemens CO
Date of Most Recent Service	

Initial Settings	
Zero	
Span	

Final Settings	
Zero	
Span	

↑

Low Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-8-06	1355	0.0 ppm	3.4	3.4
	2	2-8-06	1440	0.0	3.0	3.0
	3	2-8-06	1520	0.0	3.0	3.0

Mid Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-8-06	1400	56.4	56.3	0.1
	2	2-8-06	1445	56.4	58.3	1.9
	3	2-8-06	1525	56.4	56.6	0.2

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High Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-8-06	1405	549	551	0.2
	2	2-8-06	1450	549	550	0.1
	3	2-8-06	1530	549	552	0.3

Notes:

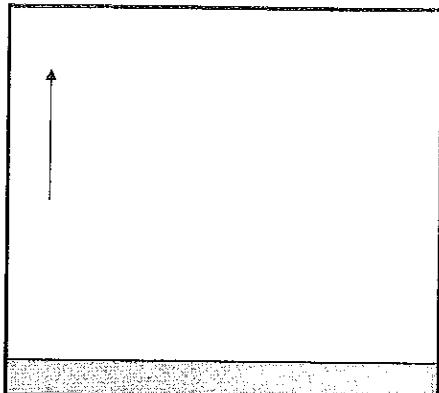
AIRTECH ENVIRONMENTAL SERVICES INC.  
Calibration Error Data Sheet

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Client	U.S Filter Westates	
Plant	Parker Az	
Date	2-8-06	
Operator	Cliff Anderson	
Analyzer ID		
Analyzer Type	TECO	CD
Date of Most Recent Service		

Initial Settings		Final Settings	
Zero		Zero	
Span		Span	



Low Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-08-06	1420	0.0	2.5	0.025%
	2	2-08-06	1500	0.0	2.6	0.025%
	3	2-08-06	1540	0.0	2.6	0.025%

2.5%  
2.5%  
2.5%

Mid Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-08-06	1425	96.2	97.0	0.8%
	2	2-08-06	1505	96.2	96.8	-0.6%
	3	2-08-06	1545	96.2	96.7	-0.5%

0.8%, -0.6%, -0.5%

High Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-08-06	1430	994	986	-0.8%
	2	2-08-06	1510	994	988	-0.6%
	3	2-08-06	1550	994	985	-0.9%

Notes:

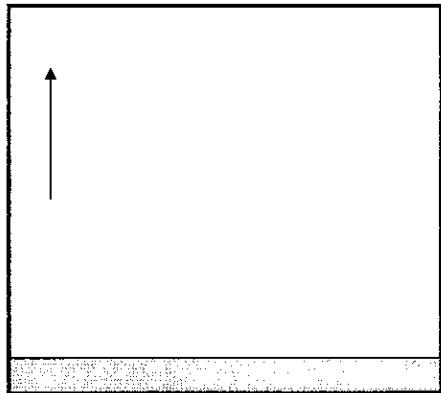
AIRTECH ENVIRONMENTAL SERVICES INC.  
Calibration Error Data Sheet

PROJECT NO. \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Client	Us Filter Westates
Plant	Parker Az
Date	2-8-06
Operator	Cliff Anderson
Analyzer I.D.	
Analyzer Type	Tecw Co
Date of Most Recent Service	

Initial Settings		Final Settings	
Zero		Zero	
Span		Span	



Low Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-8-06	1355	0.0	2.5	2.5
	2	2-8-06	1440	0.0	2.6	2.4
	3	2-8-06	1520	0.0	2.6	2.6

Mid Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-8-06	1400	56.4	57.2	0.9
	2	2-8-06	1445	56.4	57.1	0.7
	3	2-8-06	1525	56.4	57.0	0.6

High Level	Trial	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (%)
	1	2-8-06	1405	549	538	1.1
	2	2-8-06	1450	549	538	1.1
	3	2-8-06	1530	549	535	1.4

Notes:

AIRTECH ENVIRONMENTAL SERVICES INC.  
Calibration Error Data Sheet

PROJECT NO. 2282

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Client	<u>Us Filter Westates</u>	
Plant	<u>Parker Az</u>	
Date	<u>2-8-06</u>	
Operator	<u>Cliff Anderson</u>	
Analyzer ID:	<input type="text"/>	
Analyzer Type	<input type="text"/>	<u>Ametek O2 (old)</u>
Date of Most Recent Service	<input type="text"/>	

↑

Initial Settings		Final Settings	
Zero	<input type="text"/>	Zero	<input type="text"/>
Span	<input type="text"/>	Span	<input type="text"/>

Low Level	Trial	Date	Time	Calibration Value (%)	Monitor Response (%)	Difference (%)
	1	2-8-06	1355	2.03	2.28	0.25%
	2	2-8-06	1440	2.03	2.28	0.25%
	3	2-8-06	1520	2.03	2.27	0.24%

Mid Level	Trial	Date	Time	Calibration Value (%)	Monitor Response (%)	Difference (%)
	1	2-8-06	1400	15.06	14.71	-0.35%
	2	2-8-06	1445	15.06	14.80	-0.26%
	3	2-8-06	1525	15.06	14.80	-0.26%

High Level	Trial	Date	Time	Calibration Value (%)	Monitor Response (%)	Difference (%)
	1	2-8-06	1405	0.0	.02	0.02%
	2	2-8-06	1450	0.0	.01	0.01%
	3	2-8-06	1530	0.0	.02	0.02%

NUT  
VS60

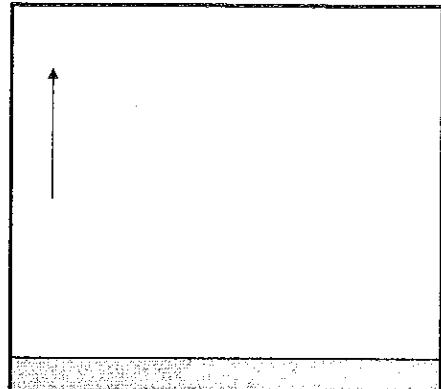
Notes:

AIRTECH ENVIRONMENTAL SERVICES INC.  
Calibration Error Data Sheet

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Client	U.S Filter Westates	
Plant	Parker Az	
Date	2-8-06	
Operator	Cliff Anderson	
Analyzer ID.		
Analyzer Type	AMETEK OLD	
Date of Most Recent Service		



Initial Settings		Final Settings	
Zero		Zero	
Span		Span	

Low Level	Trial	Date	Time	Calibration Value (%)	Monitor Response (%)	Difference (%)
	1	2-8-06	1420	2.03	2.29	0.26%
	2	2-8-06	1500	2.03	2.28	0.25%
	3	2-8-06	1540	2.03	2.28	0.25%

Mid Level	Trial	Date	Time	Calibration Value (%)	Monitor Response (%)	Difference (%)
	1	2-8-06	1425	7.02	7.30	0.28%
	2	2-8-06	1505	7.02	7.29	0.27%
	3	2-8-06	1545	7.02	7.29	0.27%

High Level	Trial	Date	Time	Calibration Value (%)	Monitor Response (%)	Difference (%)
	1	2-8-06	1430	0.0	.04	0.04%
	2	2-8-06	1510	0.0	.06	0.06%
	3	2-8-06	1550	0.0	.04	0.04%

Notes:

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	Run 1	Run 2	Run 3	Average
<b><u>Thermox Oxygen, Series 2000</u></b>				
<i>Upscale Response Time (sec)</i>	50	40	50	46.7
<i>Downscale Response Time (sec)</i>	45	40	50	45.0
<b>Analyzer Response Time (sec)</b>	46.7			
<b><u>Ametek Oxygen</u></b>	Run 1	Run 2	Run 3	Average
<i>Upscale Response Time (sec)</i>	50	60	60	56.7
<i>Downscale Response Time (sec)</i>	55	45	40	46.7
<b>Analyzer Response Time (sec)</b>	56.7			
<b><u>Siemens Carbon Monoxide</u></b>	Run 1	Run 2	Run 3	Average
<i>Upscale Response Time (sec)</i>	70	55	65	63.3
<i>Downscale Response Time (sec)</i>	65	55	60	60.0
<b>Analyzer Response Time (sec)</b>	63.3			
<b><u>TECO Carbon Monoxide (Channel 1)</u></b>	Run 1	Run 2	Run 3	Average
<i>Upscale Response Time (sec)</i>	60	55	55	56.7
<i>Downscale Response Time (sec)</i>	115	85	95	98.3
<b>Analyzer Response Time (sec)</b>	98.3			
<b><u>TECO Carbon Monoxide (Channel 2)</u></b>	Run 1	Run 2	Run 3	Average
<i>Upscale Response Time (sec)</i>	110	80	85	91.7
<i>Downscale Response Time (sec)</i>	100	70	85	85.0
<b>Analyzer Response Time (sec)</b>	91.7			

AIRTECH ENVIRONMENTAL SERVICES INC.  
Response Time Data Sheet

PROJECT NO. 2282

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Client	US FILTER WESTATES (CARBON)		
Plant	PARICOR, AZ		
Date	2/9/06		
Operator	C. Anderson DATA COMPLETED BY TW		

Analyzer I.D.		THERMOX		
Analyzer Type		O2 SERIES 2000		
Date of Most Recent Service				
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	0.07	0.17	55
Upscale	2.03	2.01	1.84	50
Downscale	2.03	2.05	2.42	45

Analyzer I.D.		THERMOX		
Analyzer Type		O2 SERIES 2000		
Date of Most Recent Service				
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	0.05	0.15	45
Upscale	2.03	1.99	1.84	40
Downscale	2.03	2.04	2.41	40

Analyzer I.D.		THERMOX		
Analyzer Type		O2 SERIES 2000		
Date of Most Recent Service				
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	0.05	0.10	50
Upscale	2.03	2.05	1.90	50
Downscale	2.03	2.05	2.47	50

## AIRTECH ENVIRONMENTAL SERVICES INC.

## Response Time Data Sheet

PROJECT NO. 2282

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Client	US FILTER WESTATES CARBON
Plant	PARKER, AZ
Date	2/9/06
Operator	C. ANDERSON DATA COMPLETE BY TW

Analyzer I.D.	AMETEK			
Analyzer Type	O2			
Date of Most Recent Service	1/18/06			
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	0.00	0.12	65
Upscale	2.03	2.30	2.18	50
Downscale	2.03	2.35	2.71	55

Analyzer I.D.	AMETEK			
Analyzer Type	O2			
Date of Most Recent Service	1/18/06			
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	0.00	0.10	45
Upscale	2.03	2.27	2.16	60
Downscale	2.03	2.34	2.70	45

Analyzer I.D.	AMETEK			
Analyzer Type	O2			
Date of Most Recent Service	1/18/06			
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	0.00	0.12	60
Upscale	2.03	2.26	2.15	60
Downscale	2.03	2.32	2.73	40

AIRTECH ENVIRONMENTAL SERVICES INC.  
Response Time Data Sheet

PROJECT NO. 2282

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Client	US FILTER WESTATES CARBON
Plant	PARKER, AZ
Date	2/9/06
Operator	T. Anderson Data Compiled By TW

Analyzer I.D.		SIEMENS		
Analyzer Type		CO		
Date of Most Recent Service				
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	4.22	4.37	70
Upscale	994	980.94	928	70
Downscale	0.00	5.04	54.0	65

Analyzer I.D.		SIEMENS		
Analyzer Type		CO		
Date of Most Recent Service				
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	5.00	5.22	80
Upscale	994	985.2	931	55
Downscale	0.00	5.04	54.2	55

Analyzer I.D.		SIEMENS		
Analyzer Type		CO		
Date of Most Recent Service				
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	4.77	5.09	70
Upscale	994	984.9	933	65
Downscale	0.00	4.49	53.7	60

AIRTECH ENVIRONMENTAL SERVICES INC.  
Response Time Data Sheet

PROJECT NO. 2282

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Client	US FILTER - WESTATES CARBON
Plant	PARKER, AZ
Date	2/9/06
Operator	C. Anderson DATA Compiled By TW

Analyzer I.D.		TECO CHANNEL 1		
Analyzer Type		CO		
Date of Most Recent Service		1/4/06		
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	2.46	2.69	110
Upscale	96.2	100.94	93.6	60
Downscale	0.00	3.63	8.50	115

Analyzer I.D.		TECO CHANNEL 1		
Analyzer Type		CO		
Date of Most Recent Service		1/4/06		
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	2.79	3.10	90
Upscale	96.2	75.0	6.00-69.0	655
Downscale	0.00	3.10	6.70	85

Analyzer I.D.		TECO CHANNEL 1		
Analyzer Type		CO		
Date of Most Recent Service		1/4/06		
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	2.86	3.17	95
Upscale	96.2	99.8	92.3	55
Downscale	0.00	3.76	8.56	95

AIRTECH ENVIRONMENTAL SERVICES INC.  
Response Time Data Sheet

PROJECT NO. 2292

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Client	US FILTER WESTMEN CARBON		
Plant	PARKER, AZ		
Date	2/9/06		
Operator	C. ANDERSON	DATA COMPUTER BY TW	

Analyzer I.D.	TECO 48 CHANNEL 2			
Analyzer Type	CO			
Date of Most Recent Service	1/4/06			
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	4.02	4.10	90
Upscale	994	981.52	927	110
Downscale	0.00	3.91	53.0	100

Analyzer I.D.	TECO 48 CHANNEL 2			
Analyzer Type	CO			
Date of Most Recent Service	1/4/06			
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	2.89	3.08	90
Upscale	994	988.2	936	80
Downscale	0.00	3.95	53.4	70

Analyzer I.D.	TECO 48 CHANNEL 2			
Analyzer Type	CO			
Date of Most Recent Service	1/4/06			
Gas	Actual Gas Value	Stable Gas Value	95% of Stable Gas Value	Response Time (seconds)
Zero	0.00	2.573.01	3.31	85
Upscale	994	942.8	940	85
Downscale	0.00	4.84	54.2	85

**USFilter Westates**

Print Date: 02/05/2006

**CEMS Daily Calibration Results**

05-Feb-2006

Time	Oxygen	CO	Oxygen	CO Low	CO High
	Zero	Zero	Cal	Cal	Cal
09:51	0.00	0.0	0.00	0.0	0
09:52	0.00	0.0	0.00	0.0	0
09:53	0.00	0.0	0.00	0.0	0
09:54	0.00	0.0	0.00	0.0	0
09:55	0.00	0.0	0.00	0.0	0
09:56	0.00	0.0	0.00	0.0	0
09:57	0.00	0.0	0.00	0.0	0
09:58	0.00	0.0	0.00	0.0	0
09:59	0.00	0.0	0.00	0.0	0
10:00	0.00	0.0	0.00	0.0	0
10:01	0.00	0.0	0.00	0.0	0
10:02	0.76	3.4	0.00	0.0	0
10:03	2.09	3.0	0.00	0.0	0
10:04	2.07	2.4	0.00	0.0	0
10:05	2.07	2.4	0.00	0.0	0
10:06	2.07	2.4	0.00	0.0	0
10:07	0.00	0.0	3.10	3.2	0
10:08	0.00	0.0	7.16	51.9	0
10:09	0.00	0.0	7.17	87.6	0
10:10	0.00	0.0	7.18	88.7	0
10:11	0.00	0.0	7.18	88.9	0
10:12	0.00	0.0	0.00	0.0	129
10:13	0.00	0.0	0.00	0.0	872
10:14	0.00	0.0	0.00	0.0	994
10:15	0.00	0.0	0.00	0.0	994
10:16	0.00	0.0	0.00	0.0	1000
10:17	0.00	0.0	0.00	0.0	0
10:18	0.00	0.0	0.00	0.0	0
10:19	0.00	0.0	0.00	0.0	n/a
10:20	n/a	n/a	n/a	n/a	n/a

	Actual	Expected	Cal Error	Passed?
Oxygen Zero	2.09	2.03	0.06	Yes
Carbon Monoxide Zero	2.4	0.0	2.4	Yes
Oxygen Span	7.18	7.26	-0.08	Yes
Carbon Monoxide Low	88.9	87.6	1.3	Yes
Carbon Monoxide High	1000	1002	-2	Yes

Calibration Requirements: Oxygen = +/- 0.50 % CO Low = +/- 5.0 ppm CO High = +/- 50.0 ppm

# **USFilter Westates**

Print Date: 02/06/2006

## **CEMS Daily Calibration Results**

06-Feb-2006

Time	Oxygen	CO	Oxygen	CO Low	CO High
	Zero	Zero	Cal	Cal	Cal
09:52	0.00	0.0	0.00	0.0	0
09:53	0.00	0.0	0.00	0.0	0
09:54	0.00	0.0	0.00	0.0	0
09:55	0.00	0.0	0.00	0.0	0
09:56	0.00	0.0	0.00	0.0	0
09:57	0.00	0.0	0.00	0.0	0
09:58	0.00	0.0	0.00	0.0	0
09:59	0.00	0.0	0.00	0.0	0
10:00	0.00	0.0	0.00	0.0	0
10:01	0.00	0.0	0.00	0.0	0
10:02	0.88	2.1	0.00	0.0	0
10:03	2.10	2.8	0.00	0.0	0
10:04	2.09	2.4	0.00	0.0	0
10:05	2.09	2.4	0.00	0.0	0
10:06	2.08	2.4	0.00	0.0	0
10:07	0.00	0.0	2.86	2.9	0
10:08	0.00	0.0	7.16	44.2	0
10:09	0.00	0.0	7.19	86.4	0
10:10	0.00	0.0	7.20	89.8	0
10:11	0.00	0.0	7.19	89.9	0
10:12	0.00	0.0	0.00	0.0	113
10:13	0.00	0.0	0.00	0.0	732
10:14	0.00	0.0	0.00	0.0	990
10:15	0.00	0.0	0.00	0.0	990
10:16	0.00	0.0	0.00	0.0	997
10:17	0.00	0.0	0.00	0.0	0
10:18	0.00	0.0	0.00	0.0	0
10:19	0.00	0.0	0.00	0.0	0
10:20	n/a	n/a	n/a	n/a	n/a
10:21	n/a	n/a	n/a	n/a	n/a

	Actual	Expected	Cal Error	Passed?
Oxygen Zero	2.10	2.03	0.07	Yes
Carbon Monoxide Zero	2.1	0.0	2.1	Yes
Oxygen Span	7.20	7.26	-0.06	Yes
Carbon Monoxide Low	89.9	87.6	2.3	Yes
Carbon Monoxide High	997	1002	-5	Yes

Calibration Requirements: Oxygen = +/- 0.50 % CO Low = +/- 5.0 ppm CO High = +/- 50.0 ppm

**USFilter Westates**

Print Date: 02/07/2006

**CEMS Daily Calibration Results**

07-Feb-2006

Time	Oxygen	CO	Oxygen	CO Low	CO High
	Zero	Zero	Cal	Cal	Cal
09:51	0.00	0.0	0.00	0.0	0
09:52	0.00	0.0	0.00	0.0	0
09:53	0.00	0.0	0.00	0.0	0
09:54	0.00	0.0	0.00	0.0	0
09:55	0.00	0.0	0.00	0.0	0
09:56	0.00	0.0	0.00	0.0	0
09:57	0.00	0.0	0.00	0.0	0
09:58	0.00	0.0	0.00	0.0	0
09:59	0.00	0.0	0.00	0.0	0
10:00	0.00	0.0	0.00	0.0	0
10:01	0.00	0.0	0.00	0.0	0
10:02	0.77	11.3	0.00	0.0	0
10:03	2.09	5.2	0.00	0.0	0
10:04	2.07	2.4	0.00	0.0	0
10:05	2.07	2.3	0.00	0.0	0
10:06	2.07	2.3	0.00	0.0	0
10:07	0.17	0.2	2.82	3.0	0
10:08	0.00	0.0	7.15	50.2	0
10:09	0.00	0.0	7.17	88.1	0
10:10	0.00	0.0	7.18	89.5	0
10:11	0.00	0.0	7.19	89.6	0
10:12	0.00	0.0	0.60	7.5	137
10:13	0.00	0.0	0.00	0.0	826
10:14	0.00	0.0	0.00	0.0	996
10:15	0.00	0.0	0.00	0.0	997
10:16	0.00	0.0	0.00	0.0	997
10:17	0.00	0.0	0.00	0.0	989
10:18	0.00	0.0	0.00	0.0	0
10:19	n/a	n/a	n/a	n/a	n/a
10:20	n/a	n/a	n/a	n/a	n/a

	Actual	Expected	Cal Error	Passed?
Oxygen Zero	2.09	2.03	0.06	Yes
Carbon Monoxide Zero	0.2	0.0	0.2	Yes
Oxygen Span	7.19	7.26	-0.07	Yes
Carbon Monoxide Low	89.8	87.6	2.0	Yes
Carbon Monoxide High	997	1002	-5	Yes

Calibration Requirements: Oxygen = +/- 0.50 % CO Low = +/- 5.0 ppm CO High = +/- 50.0 ppm

# **USFilter Westates**

Print Date: 02/08/2006

## **CEMS Daily Calibration Results**

08-Feb-2006

Time	Oxygen	CO	Oxygen	CO Low	CO High
	Zero	Zero	Cal	Cal	Cal
06:02	0.00	0.0	0.00	0.0	0
06:03	0.00	0.0	0.00	0.0	0
06:04	0.00	0.0	0.00	0.0	0
06:05	0.00	0.0	0.00	0.0	0
06:06	0.00	0.0	0.00	0.0	0
06:07	0.00	0.3	0.00	0.0	0
06:08	0.96	3.6	0.00	0.0	0
06:09	2.08	3.2	0.00	0.0	0
06:10	2.08	2.6	0.00	0.0	0
06:11	2.08	2.6	0.00	0.0	0
06:12	1.91	2.4	0.17	0.2	0
06:13	0.00	0.0	3.38	4.6	0
06:14	0.00	0.0	7.21	50.7	0
06:15	0.00	0.0	7.24	87.4	0
06:16	0.00	0.0	7.26	89.1	0
06:17	0.00	0.0	6.66	81.6	89
06:18	0.00	0.0	0.00	0.0	229
06:19	0.00	0.0	0.00	0.0	860
06:20	0.00	0.0	0.00	0.0	984
06:21	0.00	0.0	0.00	0.0	986
06:22	0.00	0.0	0.00	0.0	987
06:23	0.00	0.0	0.00	0.0	0
06:24	0.00	0.0	0.00	0.0	0
06:25	0.00	0.0	0.00	0.0	0
06:26	0.00	0.0	0.00	0.0	0
06:27	0.00	0.0	0.00	0.0	0
06:28	0.00	0.0	0.00	0.0	0
06:29	0.00	0.0	0.00	0.0	0
06:30	n/a	n/a	n/a	n/a	n/a
06:31	n/a	n/a	n/a	n/a	n/a

	Actual	Expected	Cal Error	Passed?
Oxygen Zero	2.08	2.03	0.05	Yes
Carbon Monoxide Zero	0.3	0.0	0.3	Yes
Oxygen Span	7.26	7.26	-0.00	Yes
Carbon Monoxide Low	89.1	87.6	1.5	Yes
Carbon Monoxide High	987	1002	-15	Yes

Calibration Requirements: Oxygen = +/- 0.50 % CO Low = +/- 5.0 ppm CO High = +/- 50.0 ppm

# **USFilter Westates**

Print Date: 02/09/2006

## **CEMS Daily Calibration Results**

09-Feb-2006

Time	Oxygen	CO	Oxygen	CO Low	CO High
	Zero	Zero	Cal	Cal	Cal
04:54	0.00	0.0	0.00	0.0	0
04:55	0.00	0.0	0.00	0.0	0
04:56	0.00	0.0	0.00	0.0	0
04:57	0.00	0.0	0.00	0.0	0
04:58	0.00	0.0	0.00	0.0	0
04:59	0.00	0.0	0.00	0.0	0
05:00	0.00	0.0	0.00	0.0	0
05:01	0.00	0.0	0.00	0.0	0
05:02	0.78	4.5	0.00	0.0	0
05:03	2.08	4.0	0.00	0.0	0
05:04	2.07	2.5	0.00	0.0	0
05:05	2.07	2.5	0.00	0.0	0
05:06	2.07	2.5	0.00	3.4	0
05:07	0.00	0.0	3.13	54.9	0
05:08	0.00	0.0	6.93	93.6	0
05:09	0.00	0.0	6.95	95.5	0
05:10	0.00	0.0	6.96	95.5	0
05:11	0.00	0.0	6.96	0.0	173
05:12	0.00	0.0	0.00	0.0	893
05:13	0.00	0.0	0.00	0.0	983
05:14	0.00	0.0	0.00	0.0	983
05:15	0.00	0.0	0.00	0.0	982
05:16	0.00	0.0	0.00	0.0	0
05:17	0.00	0.0	0.00	0.0	0
05:18	0.00	0.0	0.00	0.0	0
05:19	0.00	0.0	0.00	0.0	0
05:20	0.00	0.0	0.00	0.0	0
05:21	0.00	0.0	0.00	0.0	0
05:22	0.00	0.0	0.00	0.0	0
05:23	0.00	0.0	0.00	0.0	0

	Actual	Expected	Cal Error	Passed?
Oxygen Zero	2.08	2.03	0.05	Yes
Carbon Monoxide Zero	2.5	0.0	2.5	Yes
Oxygen Span	6.96	7.26	-0.30	Yes
Carbon Monoxide Low	95.5	96.4	-0.9	Yes
Carbon Monoxide High	983	994	-11	Yes

Calibration Requirements: Oxygen = +/- 0.50 % CO Low = +/- 5.0 ppm CO High = +/- 50.0 ppm

## **USFilter Westates**

Print Date: 02/10/2006

### **CEMS Daily Calibration Results**

10-Feb-2006

Time	Oxygen	CO	Oxygen	CO Low	CO High
	Zero	Zero	Cal	Cal	Cal
09:51	0.00	0.0	0.00	0.0	0
09:52	0.00	0.0	0.00	0.0	0
09:53	0.00	0.0	0.00	0.0	0
09:54	0.00	0.0	0.00	0.0	0
09:55	0.00	0.0	0.00	0.0	0
09:56	0.00	0.0	0.00	0.0	0
09:57	0.00	0.0	0.00	0.0	0
09:58	0.00	0.0	0.00	0.0	0
09:59	0.00	0.0	0.00	0.0	0
10:00	0.00	0.0	0.00	0.0	0
10:01	0.00	0.0	0.00	0.0	0
10:02	1.22	3.3	0.00	0.0	0
10:03	2.06	2.7	0.00	0.0	0
10:04	2.06	2.5	0.00	0.0	0
10:05	2.06	2.5	0.00	0.0	0
10:06	2.06	2.5	0.00	0.0	0
10:07	0.00	0.0	3.79	4.1	0
10:08	0.00	0.0	14.87	57.9	0
10:09	0.00	0.0	14.92	57.8	0
10:10	0.00	0.0	14.94	57.8	0
10:11	0.00	0.0	14.95	57.8	0
10:12	0.00	0.0	0.00	0.0	n/a
10:13	0.00	0.0	0.00	0.0	413
10:14	0.00	0.0	0.00	0.0	545
10:15	0.00	0.0	0.00	0.0	545
10:16	0.00	0.0	0.00	0.0	545
10:17	0.00	0.0	0.00	0.0	0
10:18	0.00	0.0	0.00	0.0	0
10:19	0.00	0.0	0.00	0.0	n/a
10:20	n/a	n/a	n/a	n/a	n/a

	Actual	Expected	Cal Error	Passed?
Oxygen Zero	2.06	2.03	0.03	Yes
Carbon Monoxide Zero	2.5	0.0	2.5	Yes
Oxygen Span	14.95	15.10	-0.15	Yes
Carbon Monoxide Low	57.9	56.4	1.5	Yes
Carbon Monoxide High	545	549	-4	Yes

Calibration Requirements: Oxygen = +/- 0.50 % CO Low = +/- 5.0 ppm CO High = +/- 50.0 ppm

# **USFilter Westates**

Print Date: 02/11/2006

## **CEMS Daily Calibration Results**

11-Feb-2006

Time	Oxygen	CO	Oxygen	CO Low	CO High
	Zero	Zero	Cal	Cal	Cal
09:51	0.00	0.0	0.00	0.0	0
09:52	0.00	0.0	0.00	0.0	0
09:53	0.00	0.0	0.00	0.0	0
09:54	0.00	0.0	0.00	0.0	0
09:55	0.00	0.0	0.00	0.0	0
09:56	0.00	0.0	0.00	0.0	0
09:57	0.00	0.0	0.00	0.0	0
09:58	0.00	0.0	0.00	0.0	0
09:59	0.00	0.0	0.00	0.0	0
10:00	0.00	0.0	0.00	0.0	0
10:01	0.00	0.0	0.00	0.0	0
10:02	1.71	33.9	0.00	0.0	0
10:03	2.31	4.1	0.00	0.0	0
10:04	2.31	1.9	0.00	0.0	0
10:05	2.31	1.7	0.00	0.0	0
10:06	2.31	1.7	0.00	0.0	0
10:07	0.00	0.0	3.81	13.8	0
10:08	0.00	0.0	7.25	92.7	0
10:09	0.00	0.0	7.30	94.5	0
10:10	0.00	0.0	7.32	96.9	0
10:11	0.00	0.0	7.32	96.9	0
10:12	0.00	0.0	0.00	0.0	937
10:13	0.00	0.0	0.00	0.0	1000
10:14	0.00	0.0	0.00	0.0	1000
10:15	0.00	0.0	0.00	0.0	1000
10:16	0.00	0.0	0.00	0.0	1000
10:17	0.00	0.0	0.00	0.0	0
10:18	0.00	0.0	0.00	0.0	0
10:19	n/a	n/a	n/a	n/a	n/a
10:20	n/a	n/a	n/a	n/a	n/a

	Actual	Expected	Cal Error	Passed?
Oxygen Zero	2.31	2.03	0.28	Yes
Carbon Monoxide Zero	1.7	0.0	1.7	Yes
Oxygen Span	7.32	7.00	0.32	Yes
Carbon Monoxide Low	96.9	96.2	0.7	Yes
Carbon Monoxide High	1000	994	6	Yes

Calibration Requirements: Oxygen = +/- 0.50 % CO Low = +/- 5.0 ppm CO High = +/- 50.0 ppm

***USFilter Westates***

Print Date: 02/12/2006

***CEMS Daily Calibration Results***

12-Feb-2006

Time	Oxygen	CO	Oxygen	CO Low	CO High
	Zero	Zero	Cal	Cal	Cal
09:51	0.00	0.0	0.00	0.0	0
09:52	0.00	0.0	0.00	0.0	0
09:53	0.00	0.0	0.00	0.0	0
09:54	0.00	0.0	0.00	0.0	0
09:55	0.00	0.0	0.00	0.0	0
09:56	0.00	0.0	0.00	0.0	0
09:57	0.00	0.0	0.00	0.0	0
09:58	0.00	0.0	0.00	0.0	0
09:59	0.00	0.0	0.00	0.0	0
10:00	0.00	0.0	0.00	0.0	0
10:01	0.00	0.0	0.00	0.0	0
10:02	1.51	31.3	0.00	0.0	0
10:03	2.28	3.0	0.00	0.0	0
10:04	2.28	2.4	0.00	0.0	0
10:05	2.28	2.4	0.00	0.0	0
10:06	2.29	2.4	0.00	0.0	0
10:07	0.00	0.0	3.74	18.1	0
10:08	0.00	0.0	7.22	92.6	0
10:09	0.00	0.0	7.23	96.3	0
10:10	0.00	0.0	7.23	96.3	0
10:11	0.00	0.0	7.30	96.3	0
10:12	0.00	0.0	0.00	0.0	916
10:13	0.00	0.0	0.00	0.0	999
10:14	0.00	0.0	0.00	0.0	1000
10:15	0.00	0.0	0.00	0.0	1000
10:16	0.00	0.0	0.00	0.0	1000
10:17	0.00	0.0	0.00	0.0	0
10:18	0.00	0.0	0.00	0.0	0
10:19	n/a	n/a	n/a	n/a	n/a
10:20	n/a	n/a	n/a	n/a	n/a

	Actual	Expected	Cal Error	Passed?
Oxygen Zero	2.29	2.03	0.26	Yes
Carbon Monoxide Zero	2.4	0.0	2.4	Yes
Oxygen Span	7.30	7.00	0.30	Yes
Carbon Monoxide Low	96.3	96.2	0.0	Yes
Carbon Monoxide High	1000	994	6	Yes

Calibration Requirements: Oxygen = +/- 0.50 % CO Low = +/- 5.0 ppm CO High = +/- 50.0 ppm

AIRTECH ENVIRONMENTAL SERVICES INC  
Calibration Drill Data Sheet

PROJECT NO. \_\_\_\_\_

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Client	US Filter - Webates Carbon
Plant	RF-2 Parker, AZ
Date	2-22-06
Operator	C. ANDERSON
Analyzer ID.	SERT7MB2332-20K5B-40A1
Analyzer Type	SIEMENS ROTAMAT 23 (D)
Date of Most Recent Service	2-9-06 (CALIBRATION)

Initial Settings	
Zero	
Span	

Final Settings	
Zero	
Span	

Day	Date	Time	Calibration	Monitor	Difference	Percent of
			Value (ppm)	Response (ppm)	(ppm)	Span (%)
0						
1	2-11-06	0930	0.0	.6	.6	
2	2-12-06	0930	0.0	1.7	1.7	
3	2-13-06	0930	0.0	2.7	2.7	
4	2-14-06	0930	0.0	1.6	1.6	
5	2-15-06	0930	0.0	3.4	2.4	
6	2-16-06	0930	0.0	1.3	1.3	
7	2-17-06	0930	0.0	1.7	1.7	

Day	Date	Time	Calibration	Monitor	Difference	Percent of
			Value (ppm)	Response (ppm)	(ppm)	Span (%)
0						
1						
2						
3						
4						
5						
6						
7						

Notes:

**AIRTEC ENVIRONMENTAL SERVICES INC**  
 Calibration Data Sheet

PROJECT NO. \_\_\_\_\_

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Client	US Filter - Westates Carbon
Plant	PP-2 Parker, AZ
Date	2-22-00
Operator	G ANDERSON
Analyzer ID	SERT 7MB2323-2DK60-40-3
Analyzer type	SIEMENS ULTRAMAT-23 (U)
Date of Most Recent Service	2-9-00 (CALIBRATION)

Initial Settings		Final Settings	
Zero		Zero	
Span		Span	

Day Low-Level Calibration	Date	Time	Calibration	Monitor	Difference	Percent of
			Value (ppm)	Response (ppm)	(ppm)	Span (%)
0						
1	2-11-00	1002	96.2	96.9	.7	
2	2-12-00	1002	96.2	96.3	.1	
3	2-13-00	1002	96.2	96.1	.1	
4	2-14-00	1002	96.2	96.3	.1	
5	2-15-00	1002	96.2	94.9	1.3	
6	2-16-00	1002	96.2	94.6	1.6	
7	2-17-00	1002	96.2	94.5	1.7	

Day High-Level Calibration	Date	Time	Calibration	Monitor	Difference	Percent of
			Value (ppm)	Response (ppm)	(ppm)	Span (%)
0						
1	2-11-00	1007	994	1000	6	
2	2-12-00	1007	994	1000	6	
3	2-13-00	1007	994	1000	6	
4	2-14-00	1007	994	1000	6	
5	2-15-00	1007	994	1000	6	
6	2-16-00	1007	994	1000	6	
7	2-17-00	1007	994	1000	6	

Notes:

AIRTECH ENVIRONMENTAL SERVICES INC  
Calibration Drift Data Sheet

PROJECT NO. \_\_\_\_\_

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Client	US Filter - Westates Carbon
Plant	RF-4 Parker, AZ
Date	2-22-06
Operator	C. ANDERSON
Analyzer I.D.	SER. # 7MB2333-2PK50-4044
Analyzer Type	SIEMENS ULTRAMAT 23 CO
Date of Most Recent Service	2-9-06 (CALIBRATION)

Initial Settings	
Zero	
Span	

Final Settings	
Zero	
Span	

Low-Level Calibration	Day	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (ppm)	Percent of Span (%)
	0						
1	2-15-06	0935	56.4	55.1	-1.3		
2	2-16-06	0935	56.4	54.8	-1.6		
3	2-13-06	0935	56.4	56.0	+4		
4	2-14-06	0935	56.4	55.2	-1.2		
5	2-15-06	0935	56.4	55.6	-1.8		
6	2-16-06	0935	56.4	55.2	-1.2		
7	2-17-06	0935	56.4	54.6	-1.8		

High-Level Calibration	Day	Date	Time	Calibration Value (ppm)	Monitor Response (ppm)	Difference (ppm)	Percent of Span (%)
	0						
1	2-11-06	0940	549	552	3		
2	2-12-06	0940	549	551	2		
3	2-13-06	0940	549	552	3		
4	2-14-06	0940	549	550	1		
5	2-15-06	0940	549	551	2		
6	2-16-06	0940	549	551	2		
7	2-17-06	0940	549	549	0		

Notes:

AIRTECH ENVIRONMENTAL SERVICES INC  
Calibration Drill Data Sheet

PROJECT NO.

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Client	US Filter - Westates Carbon
Plant	RF-2 Parker, A2
Date	2-22-06
Operator	C. ANDERSON
Analyzer I.D.	SER. #C1079941B
Analyzer Type	AMETEK-THERMOX Oxygen
Date of Most Recent Service	01-18-06 (CALIBRATION)

Initial Settings	Final Settings
Zero	Zero
Span	Span

+  
|  
|  
|

Low Level Calibration	Day	Date	Time	Calibration Value	Monitor Response	Difference	Percent of Span
				PERCENT	PERCENT	PERCENT	(%)
3							
1	2-11-06	1002		7.00	7.32	.32	
2	2-12-06	1002		7.00	7.30	.30	
3	2-13-06	1002		7.00	7.24	.24	
4	2-14-06	1002		7.00	7.23	.23	
5	2-15-06	1002		7.00	7.29	.29	
6	2-16-06	1002		7.00	7.23	.23	
7	2-17-06	1002		7.00	7.23	.23	

High Level Calibration	Day	Date	Time	Calibration Value	Monitor Response	Difference	Percent of Span (%)
				PERCENT	PERCENT	PERCENT	(%)
1							
2	2-11-06	0935	15.10	15.10	14.81	.29	
3	2-12-06	0935	15.10	15.10	14.73	.37	
4	2-13-06	0935	15.10	15.10	15.26	.16	
5	2-14-06	0935	15.10	15.10	14.66	.44	
6	2-15-06	0935	15.10	15.10	14.72	.38	
7	2-16-06	0935	15.10	15.10	14.68	.42	
7	2-17-06	0935	15.10	15.10	14.66	.44	

Notes:

AIRTECH ENVIRONMENTAL SERVICES INC  
Calibration Drift Data Sheet

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Client	US Filter - Westates Carbon
Plant	RF-2 Parker, AZ
Date	2-22-06
Operator	C. ANDERSON
Analyst I.D.	SER# C107994B
Analyzer Type	AIRTEK-THERMOX O2
Date of Most Recent Service	1-18-06 (CALIBRATION)

Initial Settings	
Zero	Zero
Span	Span

Final Settings	
Zero	Zero
Span	Span

Day	Date	Time	Calibration	Monitor	Difference	Percent of
			Value PERCENT	Response PERCENT	PERCENT	Span (%)
0						
1	2-11-06	0930	2.03	2.31	.28	
2	2-12-06	0930	2.03	2.28	.25	
3	2-13-06	0930	2.03	2.16	.13	
4	2-14-06	0930	2.03	2.23	.20	
5	2-15-06	0930	2.03	2.27	.24	
6	2-16-06	0930	2.03	2.23	.20	
7	2-17-06	0930	2.03	2.22	.19	

Day	Date	Time	Calibration	Monitor	Difference	Percent of
			Value (ppm)	Response (ppm)	(ppm)	Span (%)
0						
1						
2						
3						
4						
5						
6						
7						

Notes:

**USFilter Westates**

Print Date: 02/09/2006

**CEMS DATA TEST #1**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	CO @ 7% TECO & THRM	CO @ 7% TECO & AMTK
08:58	10.48	13.59	10.61	13.09	18.14	18.37	17.47	17.69
08:59	10.44	13.59	10.59	13.29	18.07	18.32	17.66	17.91
09:00	10.52	13.59	10.67	13.29	18.21	18.46	17.80	18.05
09:01	10.38	15.55	10.52	14.01	20.55	20.82	18.52	18.76
09:02	10.59	15.94	10.70	14.64	21.50	21.72	19.75	19.96
09:03	10.45	15.94	10.61	13.77	21.19	21.53	18.32	18.61
09:04	10.45	15.94	10.56	12.85	21.19	21.43	17.09	17.28
09:05	10.49	15.94	10.60	12.88	21.28	21.50	17.19	17.37
09:06	10.39	13.98	10.53	12.16	18.50	18.74	16.09	16.29
09:07	10.38	13.59	10.50	10.92	17.96	18.17	14.42	14.59
09:08	10.48	13.59	10.59	11.08	18.14	18.34	14.79	14.95
09:09	10.44	13.59	10.56	11.44	18.07	18.28	15.20	15.38
09:10	10.33	13.59	10.49	11.36	17.88	18.15	14.95	15.17
09:11	10.37	13.59	10.51	10.80	17.94	18.18	14.25	14.44
09:12	10.40	13.59	10.54	10.99	18.00	18.24	14.56	14.75
09:13	10.30	13.59	10.46	11.52	17.82	18.09	15.11	15.34
09:14	10.33	13.59	10.47	11.83	17.88	18.12	15.55	15.76
09:15	10.19	13.59	10.36	11.93	17.64	17.92	15.48	15.73
09:16	10.08	13.59	10.26	11.27	17.46	17.76	14.47	14.72
09:17	10.07	13.59	10.23	11.72	17.44	17.71	15.03	15.27
09:18	10.02	13.59	10.21	12.29	17.37	17.67	15.70	15.97
AVERAGE	10.36	14.15	10.50	12.24	18.68	18.93	16.16	16.38

**USFilter Westates**

Print Date: 02/09/2006

**CEMS RATA TEST Run # 2**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
09:26	9.99	15.63	10.14	13.67	19.90	20.19	17.41	17.67	17.67
09:27	10.02	15.63	10.17	13.17	19.97	20.23	16.83	17.05	17.05
09:28	9.90	14.95	10.12	12.84	18.88	19.27	16.21	16.54	16.54
09:29	9.93	13.59	10.11	11.56	17.23	17.51	14.65	14.89	14.89
09:30	9.97	13.59	10.13	11.36	17.28	17.55	14.44	14.66	14.66
09:31	9.98	13.59	10.16	11.17	17.31	17.59	14.23	14.46	14.46
09:32	9.90	13.59	10.11	10.18	17.18	17.51	12.87	13.11	13.11
09:33	9.96	11.19	10.13	9.57	14.22	14.45	12.16	12.35	12.35
09:34	10.04	10.98	10.22	9.76	14.04	14.28	12.48	12.70	12.70
09:35	9.95	10.98	10.15	9.69	13.93	14.20	12.29	12.53	12.53
09:36	9.89	10.98	10.08	9.25	13.86	14.10	11.67	11.88	11.88
09:37	9.86	10.98	10.06	9.11	13.83	14.08	11.47	11.68	11.68
09:38	9.73	10.98	9.92	9.18	13.66	13.90	11.42	11.62	11.62
09:39	9.66	10.98	9.85	9.03	13.57	13.81	11.16	11.36	11.36
09:40	9.73	10.98	9.94	9.24	13.66	13.92	11.50	11.72	11.72
09:41	9.51	10.98	9.75	9.22	13.39	13.68	11.24	11.49	11.49
09:42	9.52	10.98	9.72	9.00	13.40	13.65	10.98	11.19	11.19
09:43	9.64	10.98	9.83	9.32	13.56	13.78	11.51	11.70	11.70
09:44	9.58	10.98	9.80	9.45	13.48	13.75	11.60	11.84	11.84
09:45	9.48	10.98	9.71	9.34	13.36	13.63	11.37	11.60	11.60
09:46	9.74	10.98	9.91	9.59	13.68	13.88	11.95	12.13	12.13
AVERAGE	9.81	12.12	10.00	10.22	15.21	15.47	12.83	13.06	13.06

**USFilter Westates**

Print Date: 02/09/2006

**CEMS RATE TEST Run # 3**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
09:55	10.18	11.68	9.62	9.43	15.14	14.40	12.22	11.62	11.62
09:56	10.17	11.68	9.65	9.43	15.14	14.43	12.22	11.65	11.65
09:57	10.16	11.68	9.75	9.45	15.11	14.56	12.22	11.78	11.78
09:58	10.17	11.68	9.63	9.68	15.13	14.41	12.53	11.94	11.94
09:59	10.22	11.68	9.67	9.15	15.21	14.45	11.91	11.32	11.32
10:00	10.23	11.68	9.55	8.85	15.22	14.31	11.54	10.85	10.85
10:01	10.13	11.68	9.72	9.45	15.08	14.52	12.20	11.74	11.74
10:02	10.18	13.67	9.75	11.39	17.72	17.03	14.77	14.20	14.20
10:03	10.14	12.16	9.24	10.33	15.72	14.50	13.36	12.32	12.32
10:04	10.14	11.99	9.76	9.45	15.49	14.97	12.21	11.80	11.80
10:05	10.16	11.99	9.75	9.25	15.52	14.96	11.98	11.54	11.54
10:06	10.03	11.99	9.82	9.85	15.33	15.04	12.59	12.35	12.35
10:07	9.84	11.99	9.67	10.02	15.07	14.84	12.59	12.40	12.40
10:08	9.88	11.99	9.64	9.47	15.13	14.80	11.94	11.68	11.68
10:09	9.77	11.99	9.90	9.32	14.97	15.15	11.64	11.78	11.78
10:10	9.65	11.99	9.73	9.36	14.81	14.92	11.56	11.64	11.64
10:11	9.79	11.99	9.83	9.54	15.00	15.05	11.94	11.98	11.98
10:12	9.74	11.99	9.79	9.54	14.93	15.00	11.88	11.93	11.93
10:13	9.74	11.99	9.63	9.54	14.94	14.79	11.88	11.77	11.77
10:14	9.76	11.99	9.61	9.54	14.96	14.77	11.90	11.75	11.75
10:15	9.68	11.99	9.66	9.36	14.85	14.82	11.59	11.57	11.57
AVERAGE	9.99	11.98	9.68	9.59	15.26	14.84	12.22	11.89	11.89

**USFilter Westates**

Print Date: 02/09/2006

**CEMS RATA TEST RUN # 4**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
10:22	9.78	10.98	9.96	9.74	13.72	13.95	12.17	12.38	
10:23	9.67	10.98	9.90	9.99	13.59	13.87	12.37	12.63	
10:24	9.46	10.98	9.67	9.54	13.34	13.59	11.60	11.81	
10:25	9.58	10.98	9.77	9.58	13.48	13.71	11.76	11.96	
10:26	9.61	10.98	9.81	9.81	13.51	13.76	12.07	12.29	
10:27	9.60	10.98	9.82	9.81	13.51	13.77	12.07	12.30	
10:28	9.57	10.98	9.81	9.81	13.46	13.75	12.03	12.29	
10:29	9.49	10.98	9.68	9.81	13.37	13.60	11.94	12.15	
10:30	9.49	10.98	9.71	9.96	13.37	13.64	12.14	12.38	
10:31	9.41	10.98	9.62	9.75	13.27	13.53	11.79	12.02	
10:32	9.55	10.98	9.76	9.74	13.44	13.70	11.92	12.15	
10:33	9.47	10.98	9.71	10.09	13.35	13.63	12.27	12.53	
10:34	9.33	10.98	9.53	9.88	13.19	13.42	11.88	12.09	
10:35	9.79	14.78	9.98	11.71	18.49	18.81	14.65	14.90	
10:36	9.28	14.98	9.54	13.01	17.91	18.33	15.56	15.93	
10:37	9.17	13.63	9.41	10.67	16.15	16.49	12.84	12.91	
10:38	9.36	13.63	9.58	11.17	16.42	16.75	13.46	13.72	
10:39	9.20	13.63	9.44	11.80	16.20	16.53	14.02	14.31	
10:40	9.16	13.63	9.41	11.60	16.14	16.49	13.74	14.03	
10:41	9.26	13.63	9.50	11.75	16.28	16.62	14.03	14.32	
10:42	9.25	13.63	9.46	11.54	16.26	16.57	13.76	14.02	
AVERAGE	9.45	12.11	9.67	10.51	14.69	14.98	12.76	13.00	

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Print Date: 02/09/2006

**CEMS RATE TEST RUN #5**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
11:36	9.26	11.68	9.47	9.82	13.95	14.20	11.73	11.94	11.94
11:37	9.44	11.68	9.67	10.17	14.17	14.45	12.33	12.58	12.58
11:38	9.28	11.68	9.53	10.07	13.98	14.27	12.05	12.31	12.31
11:39	9.41	11.68	9.64	10.15	14.13	14.41	12.28	12.52	12.52
11:40	9.33	11.68	9.56	10.74	14.03	14.31	12.90	13.16	13.16
11:41	9.27	11.68	9.49	10.71	13.96	14.23	12.80	13.05	13.05
11:42	9.27	11.68	9.52	10.01	13.96	14.26	11.97	12.22	12.22
11:43	9.34	11.68	9.56	9.72	14.04	14.32	11.68	11.91	11.91
11:44	9.38	11.68	9.62	9.94	14.10	14.39	11.99	12.24	12.24
11:45	9.26	11.68	9.49	9.94	13.95	14.23	11.87	12.10	12.10
11:46	9.34	11.68	9.54	9.87	14.04	14.29	11.86	12.07	12.07
11:47	9.37	11.68	9.61	9.28	14.08	14.38	11.19	11.42	11.42
11:48	9.33	11.68	9.55	9.22	14.03	14.30	11.08	11.30	11.30
11:49	9.38	11.68	9.62	9.84	14.10	14.39	11.87	12.12	12.12
11:50	9.40	11.68	9.65	9.91	14.12	14.43	11.98	12.24	12.24
11:51	9.42	11.68	9.66	9.77	14.14	14.44	11.82	12.07	12.07
11:52	9.38	11.68	9.59	9.43	14.10	14.36	11.38	11.59	11.59
11:53	9.41	11.68	9.62	9.43	14.13	14.40	11.41	11.62	11.62
11:54	9.41	11.68	9.65	9.43	14.13	14.43	11.41	11.65	11.65
11:55	9.52	11.68	9.75	9.45	14.27	14.56	11.55	11.78	11.78
11:56	9.39	11.68	9.63	9.68	14.10	14.41	11.68	11.94	11.94
AVERAGE	9.36	11.68	9.59	9.84	14.07	14.36	11.85	12.09	12.09

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Print Date: 02/09/2006

**CEMS DATA TEST Run #6**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
12:05	9.42	11.99	9.67	10.02	14.52	14.84	12.13	12.40	12.40
12:06	9.40	11.99	9.64	9.47	14.49	14.80	11.44	11.68	11.68
12:07	9.67	11.99	9.90	9.32	14.84	15.15	11.53	11.78	11.78
12:08	9.49	11.99	9.73	9.36	14.61	14.92	11.40	11.64	11.64
12:09	9.60	11.99	9.83	9.54	14.75	15.05	11.74	11.98	11.98
12:10	9.56	11.99	9.79	9.54	14.70	15.00	11.70	11.93	11.93
12:11	9.37	11.99	9.63	9.54	14.46	14.79	11.51	11.77	11.77
12:12	9.36	11.99	9.61	9.54	14.44	14.77	11.49	11.75	11.75
12:13	9.39	11.99	9.66	9.36	14.48	14.82	11.30	11.57	11.57
12:14	9.34	11.99	9.59	9.43	14.41	14.74	11.34	11.60	11.60
12:15	9.11	11.99	9.41	9.93	14.14	14.50	11.71	12.01	12.01
12:16	8.96	11.99	9.22	10.18	13.96	14.27	11.86	12.12	12.12
12:17	9.12	11.99	9.38	10.60	14.15	14.47	12.50	12.79	12.79
12:18	8.98	11.99	9.26	10.38	13.98	14.32	12.10	12.39	12.39
12:19	8.95	11.99	9.21	10.59	13.95	14.27	12.32	12.59	12.59
12:20	8.87	11.99	9.13	10.64	13.86	14.17	12.29	12.57	12.57
12:21	8.84	11.99	9.12	11.20	13.82	14.15	12.91	13.21	13.21
12:22	8.93	11.99	9.20	11.29	13.93	14.24	13.11	13.41	13.41
12:23	8.82	11.99	9.08	10.88	13.80	14.11	12.52	12.80	12.80
12:24	8.77	11.99	9.03	10.60	13.74	14.05	12.14	12.41	12.41
12:25	8.71	11.99	8.99	10.25	13.67	14.00	11.69	11.97	11.97
AVERAGE	9.17	11.99	9.43	10.08	14.22	14.54	11.94	12.21	12.21

**USFilter Westates**

Print Date: 02/09/2006

**CEMS RATE TEST # 7**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	CO @ 7% TECO & THRM	CO @ 7% TECO & AMTK
12:32	8.62	11.99	8.90	9.89	13.57	13.89	11.19	11.45
12:33	8.65	11.99	8.94	9.46	13.61	13.93	10.74	10.99
12:34	8.67	11.99	8.95	9.86	13.63	13.95	11.21	11.47
12:35	8.73	11.99	9.00	9.73	13.70	14.01	11.12	11.37
12:36	8.71	11.99	8.99	9.73	13.67	13.99	11.09	11.35
12:37	8.50	11.99	8.83	9.47	13.45	13.81	10.62	10.91
12:38	8.27	11.99	8.60	9.46	13.20	13.56	10.41	10.69
12:39	7.96	11.99	8.28	9.46	12.88	13.21	10.17	10.43
12:40	7.87	11.99	8.18	9.54	12.79	13.11	10.17	10.42
12:41	7.79	11.99	8.10	9.54	12.71	13.02	10.11	10.35
12:42	7.95	11.99	8.21	9.54	12.87	13.14	10.24	10.45
12:43	8.00	11.99	8.29	9.37	12.92	13.22	10.10	10.34
12:44	8.06	11.99	8.35	9.41	12.99	13.28	10.19	10.42
12:45	7.99	11.99	8.31	9.54	12.91	13.24	10.27	10.54
12:46	7.96	11.99	8.27	9.54	12.88	13.20	10.25	10.50
12:47	8.00	11.99	8.31	9.45	12.93	13.24	10.18	10.43
12:48	7.93	11.99	8.23	9.24	12.86	13.16	9.91	10.14
12:49	7.99	11.99	8.30	9.18	12.91	13.23	9.88	10.13
12:50	8.21	11.99	8.50	9.23	13.13	13.45	10.11	10.35
12:51	8.52	11.99	8.80	9.31	13.46	13.78	10.45	10.70
12:52	8.89	11.99	9.11	9.82	13.88	14.14	11.36	11.58
AVERAGE	8.25	11.99	8.55	9.51	13.19	13.50	10.47	10.72

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**CEMS RATE TEST** # 0

09-Feb-2006

Time	OXYGEN	CO RAW	OXYGEN	CO RAW	CO @ 7%	CO @ 7%	CO @ 7%	CO @ 7%
	THERMOX	SIEMENS	AMETEK	TECO	SIE & THRM	SIE & AMTK	TECO & THRM	TECO & AMTK
13:09	9.51	12.30	9.76	8.88	15.02	15.35	10.84	11.09
13:10	9.55	12.30	9.79	8.70	15.07	15.39	10.66	10.88
13:11	9.75	12.30	9.99	8.76	15.34	15.68	10.92	11.16
13:12	9.71	12.30	9.93	9.14	15.28	15.59	11.35	11.58
13:13	9.76	12.30	9.99	9.14	15.35	15.68	11.41	11.65
13:14	9.86	12.30	10.08	9.17	15.49	15.81	11.53	11.78
13:15	9.91	12.30	10.13	9.55	15.57	15.89	12.08	12.33
13:16	9.91	12.30	10.13	9.68	15.56	15.88	12.24	12.49
13:17	9.87	12.30	10.10	9.68	15.51	15.84	12.20	12.46
13:18	9.94	12.30	10.17	9.43	15.61	15.94	11.96	12.21
13:19	9.89	12.30	10.12	9.43	15.54	15.86	11.91	12.15
13:20	9.83	12.30	10.07	9.43	15.45	15.80	11.83	12.10
13:21	9.93	12.30	10.11	9.43	15.59	15.85	11.94	12.14
13:22	9.89	12.30	10.14	9.43	15.53	15.90	11.90	12.18
13:23	9.86	12.30	10.10	9.43	15.50	15.84	11.87	12.13
13:24	9.82	12.30	10.05	9.20	15.43	15.76	11.54	11.78
13:25	9.75	12.30	10.00	9.09	15.34	15.69	11.33	11.58
13:26	9.79	12.30	10.01	8.74	15.39	15.71	10.93	11.15
13:27	9.61	12.30	9.84	8.58	15.15	15.46	10.57	10.78
13:28	9.53	12.30	9.77	8.16	15.04	15.37	9.98	10.20
13:29	9.47	12.30	9.71	8.11	14.96	15.29	9.86	10.08
AVERAGE	9.77	12.30	10.00	9.10	15.37	15.69	11.37	11.61

**USFilter Westates**

Print Date: 02/09/2006

**CEMS RATE TEST # 9**

09-Feb-2006

Time	OXYGEN THERMox	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
13:37	9.26	10.04	9.50	7.65	11.99	12.24	9.13	9.32	9.32
13:38	9.12	10.04	9.38	7.77	11.85	12.11	9.17	9.38	9.38
13:39	9.16	10.04	9.40	7.52	11.88	12.13	8.91	9.09	9.09
13:40	9.20	10.04	9.46	7.26	11.93	12.20	8.62	8.82	8.82
13:41	9.25	10.04	9.48	7.10	11.98	12.22	8.47	8.64	8.64
13:42	9.03	10.04	9.30	6.98	11.75	12.03	8.17	8.36	8.36
13:43	9.04	10.04	9.32	6.89	11.77	12.05	8.08	8.27	8.27
13:44	8.88	10.04	9.15	6.37	11.61	11.88	7.37	7.53	7.53
13:45	8.97	10.04	9.28	6.07	11.70	12.01	7.08	7.27	7.27
13:46	8.82	10.04	9.10	6.00	11.55	11.83	6.90	7.07	7.07
13:47	8.81	8.18	9.09	5.71	9.41	9.63	6.57	6.72	6.72
13:48	8.74	7.81	9.05	5.32	8.93	9.16	6.08	6.24	6.24
13:49	8.67	7.81	8.98	5.27	8.88	9.11	5.99	6.14	6.14
13:50	8.63	7.81	8.92	5.27	8.85	9.06	5.97	6.11	6.11
13:51	8.72	7.81	8.98	5.27	8.91	9.11	6.01	6.14	6.14
13:52	8.74	7.81	9.03	5.27	8.93	9.15	6.02	6.16	6.16
13:53	8.76	7.81	9.02	5.05	8.95	9.14	5.79	5.91	5.91
13:54	8.83	7.81	9.10	4.98	9.00	9.20	5.74	5.87	5.87
13:55	8.82	7.81	9.08	4.77	8.99	9.19	5.49	5.61	5.61
13:56	8.97	7.81	9.25	4.69	9.11	9.32	5.47	5.60	5.60
13:57	9.10	7.81	9.39	4.69	9.20	9.43	5.53	5.67	5.67
AVERAGE	8.93	8.89	9.20	6.00	10.34	10.58	6.98	7.14	7.14

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**CEMS DATA TEST #10**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
14:09	10.07	2.38	10.26	4.89	3.06	3.11	6.27	6.38	6.38
14:10	9.89	4.90	10.12	4.34	6.19	6.32	5.48	5.60	5.60
14:11	9.85	189.55	10.03	3.89	238.43	242.39	4.89	4.97	4.97
14:12	10.03	199.22	10.23	3.75	254.75	259.59	4.80	4.89	4.89
14:13	10.15	334.00	10.35	3.38	431.83	440.18	4.37	4.45	4.45
14:14	10.32	1022.46	10.49	3.38	1343.83	1365.35	4.44	4.51	4.51
14:15	10.41	242.94	10.60	3.38	321.88	327.85	4.47	4.56	4.56
14:16	10.49	300.11	10.67	3.38	400.66	407.74	4.51	4.59	4.59
14:17	10.41	993.31	10.59	3.17	1315.95	1339.45	4.19	4.27	4.27
14:18	10.34	995.20	10.54	3.10	1309.75	1334.73	4.07	4.15	4.15
14:19	10.40	902.93	10.57	3.10	1195.73	1215.23	4.10	4.17	4.17
14:20	10.40	102.07	10.58	3.10	135.12	137.52	4.10	4.17	4.17
14:21	10.47	91.45	10.62	3.10	121.82	123.69	4.12	4.19	4.19
14:22	10.36	7.05	10.54	3.10	9.30	9.46	4.08	4.15	4.15
14:23	10.27	3.44	10.47	3.10	4.49	4.58	4.05	4.13	4.13
14:24	10.28	3.44	10.49	3.10	4.50	4.59	4.05	4.13	4.13
14:25	10.23	3.44	10.45	3.10	4.48	4.57	4.03	4.12	4.12
14:26	10.22	3.44	10.44	3.10	4.47	4.57	4.03	4.11	4.11
14:27	10.01	3.44	10.26	2.96	4.39	4.49	3.78	3.86	3.86
14:28	9.93	3.44	10.16	2.86	4.35	4.45	3.62	3.70	3.70
14:29	9.87	3.44	10.11	2.86	4.33	4.43	3.60	3.68	3.68
AVERAGE	10.21	257.70	10.41	3.34	339.02	344.97	4.34	4.42	4.42

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Print Date: 02/09/2006

**CEMS RATA TEST #11**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
14:38	9.40	3.44	9.66	2.86	4.15	4.25	3.45	3.53	3.53
14:39	9.25	3.44	9.53	2.86	4.10	4.20	3.41	3.50	3.50
14:40	9.14	3.44	9.45	2.86	4.06	4.17	3.38	3.47	3.47
14:41	9.06	3.44	9.34	2.86	4.04	4.13	3.36	3.44	3.44
14:42	9.06	3.44	9.34	2.83	4.04	4.13	3.33	3.41	3.41
14:43	8.96	3.44	9.19	2.56	4.00	4.08	2.98	3.04	3.04
14:44	9.06	3.44	9.30	2.68	4.04	4.12	3.15	3.21	3.21
14:45	9.04	3.44	9.32	2.77	4.03	4.12	3.24	3.32	3.32
14:46	8.86	3.44	9.15	2.77	3.97	4.07	3.20	3.27	3.27
14:47	8.77	3.44	9.06	2.77	3.94	4.03	3.17	3.25	3.25
14:48	8.65	3.44	8.96	2.63	3.90	4.00	2.98	3.06	3.06
14:49	8.66	3.44	8.97	2.56	3.90	4.00	2.90	2.98	2.98
14:50	8.65	3.44	8.94	2.56	3.90	3.99	2.90	2.97	2.97
14:51	8.74	3.44	9.02	2.56	3.93	4.02	2.92	2.99	2.99
14:52	8.62	3.44	8.93	2.56	3.89	3.99	2.90	2.97	2.97
14:53	8.69	3.44	8.98	2.56	3.91	4.01	2.91	2.98	2.98
14:54	8.63	3.44	8.91	2.56	3.89	3.99	2.90	2.97	2.97
14:55	8.71	3.44	8.98	2.56	3.92	4.01	2.92	2.98	2.98
14:56	8.74	3.44	9.04	2.56	3.93	4.03	2.92	3.00	3.00
14:57	8.65	3.44	8.95	2.56	3.90	4.00	2.90	2.97	2.97
14:58	8.64	3.44	8.93	2.56	3.90	3.99	2.90	2.97	2.97
AVERAGE	8.86	3.44	9.14	2.67	3.97	4.06	3.08	3.16	3.16

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Print Date: 02/09/2006

**CEMS DATA TEST #12**

09-Feb-2006

Time	OXYGEN	CO RAW	OXYGEN	CO RAW	CO @ 7%	CO @ 7%	CO & THRM	TECO & AMTK	TECO & AMTK
THERMOX	SIEMENS	AMETEK	TECO	SIE & THRM	SIE & AMTK	CO @ 7%	TECO & THRM	TECO & AMTK	CO @ 7%
15:05	8.58	3.44	8.88	2.77	3.88	3.97	3.12	3.20	3.20
15:06	8.58	3.44	8.88	2.77	3.88	3.97	3.12	3.20	3.20
15:07	8.61	3.44	8.91	2.59	3.89	3.99	2.93	3.01	3.01
15:08	8.64	3.44	8.93	2.56	3.90	3.99	2.90	2.97	2.97
15:09	8.71	3.44	8.99	2.73	3.92	4.01	3.11	3.18	3.18
15:10	8.84	3.44	9.12	2.76	3.96	4.05	3.18	3.26	3.26
15:11	8.69	3.44	8.97	2.69	3.91	4.00	3.07	3.14	3.14
15:12	8.71	3.44	9.00	2.56	3.92	4.01	2.92	2.99	2.99
15:13	8.72	3.44	8.98	2.56	3.92	4.01	2.92	2.98	2.98
15:14	8.86	3.44	9.10	2.69	3.97	4.05	3.11	3.18	3.18
15:15	8.83	3.44	9.12	2.76	3.96	4.06	3.18	3.26	3.26
15:16	8.69	3.44	8.96	2.56	3.91	4.00	2.91	2.98	2.98
15:17	8.72	3.44	9.00	2.56	3.92	4.02	2.92	2.99	2.99
15:18	8.71	3.44	8.99	2.76	3.92	4.01	3.15	3.23	3.23
15:19	8.76	3.44	9.02	2.76	3.94	4.02	3.16	3.23	3.23
15:20	8.82	3.44	9.10	2.76	3.95	4.05	3.18	3.25	3.25
15:21	8.58	3.44	8.87	2.76	3.88	3.97	3.12	3.19	3.19
15:22	8.76	3.44	9.04	2.76	3.94	4.03	3.16	3.24	3.24
15:23	8.75	3.44	9.03	2.76	3.93	4.02	3.16	3.24	3.24
15:24	8.79	3.44	9.07	2.76	3.95	4.04	3.17	3.25	3.25
15:25	8.75	3.44	9.03	2.76	3.93	4.03	3.16	3.24	3.24
AVERAGE	8.72	3.44	9.00	2.70	3.92	4.02	3.08	3.15	3.15

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Print Date: 02/09/2006

**CEMS DATA TEST #1**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	SIE & THRM	SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7% TECO & AMTK
14:38	9.40	3.44	9.66	2.86	4.15	4.25	3.45	3.53	
14:39	9.25	3.44	9.53	2.86	4.10	4.20	3.41	3.50	
14:40	9.14	3.44	9.45	2.86	4.06	4.17	3.38	3.47	
14:41	9.06	3.44	9.34	2.86	4.04	4.13	3.36	3.44	
14:42	9.06	3.44	9.34	2.83	4.04	4.13	3.33	3.41	
14:43	8.96	3.44	9.19	2.56	4.00	4.08	2.98	3.04	
14:44	9.06	3.44	9.30	2.68	4.04	4.12	3.15	3.21	
14:45	9.04	3.44	9.32	2.77	4.03	4.12	3.24	3.32	
14:46	8.86	3.44	9.15	2.77	3.97	4.07	3.20	3.27	
14:47	8.77	3.44	9.06	2.77	3.94	4.03	3.17	3.25	
14:48	8.65	3.44	8.96	2.63	3.90	4.00	2.98	3.06	
14:49	8.66	3.44	8.97	2.56	3.90	4.00	2.90	2.98	
14:50	8.65	3.44	8.94	2.56	3.90	3.99	2.90	2.97	
14:51	8.74	3.44	9.02	2.56	3.93	4.02	2.92	2.99	
14:52	8.62	3.44	8.93	2.56	3.89	3.99	2.90	2.97	
14:53	8.69	3.44	8.98	2.56	3.91	4.01	2.91	2.98	
14:54	8.63	3.44	8.91	2.56	3.89	3.99	2.90	2.97	
14:55	8.71	3.44	8.98	2.56	3.92	4.01	2.92	2.98	
14:56	8.74	3.44	9.04	2.56	3.93	4.03	2.92	3.00	
14:57	8.65	3.44	8.95	2.56	3.90	4.00	2.90	2.97	
14:58	8.64	3.44	8.93	2.56	3.90	3.99	2.90	2.97	
AVERAGE	8.86	3.44	9.14	2.67	3.97	4.06	3.08	3.16	

**USFilter Weststates**

Print Date: 02/09/2006

**CEMS RATE TEST #2**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK
15:05	8.58	3.44	8.88	2.77	3.88	3.97	3.12	3.20
15:06	8.58	3.44	8.88	2.77	3.88	3.97	3.12	3.20
15:07	8.61	3.44	8.91	2.59	3.89	3.99	2.93	3.01
15:08	8.64	3.44	8.93	2.56	3.90	3.99	2.90	2.97
15:09	8.71	3.44	8.99	2.73	3.92	4.01	3.11	3.18
15:10	8.84	3.44	9.12	2.76	3.96	4.05	3.18	3.26
15:11	8.69	3.44	8.97	2.69	3.91	4.00	3.07	3.14
15:12	8.71	3.44	9.00	2.56	3.92	4.01	2.92	2.99
15:13	8.72	3.44	8.98	2.56	3.92	4.01	2.92	2.98
15:14	8.86	3.44	9.10	2.69	3.97	4.05	3.11	3.18
15:15	8.83	3.44	9.12	2.76	3.96	4.06	3.18	3.26
15:16	8.69	3.44	8.96	2.56	3.91	4.00	2.91	2.98
15:17	8.72	3.44	9.00	2.56	3.92	4.02	2.92	2.99
15:18	8.71	3.44	8.99	2.76	3.92	4.01	3.15	3.23
15:19	8.76	3.44	9.02	2.76	3.94	4.02	3.16	3.23
15:20	8.82	3.44	9.10	2.76	3.95	4.05	3.18	3.25
15:21	8.58	3.44	8.87	2.76	3.88	3.97	3.12	3.19
15:22	8.76	3.44	9.04	2.76	3.94	4.03	3.16	3.24
15:23	8.75	3.44	9.03	2.76	3.93	4.02	3.16	3.24
15:24	8.79	3.44	9.07	2.76	3.95	4.04	3.17	3.25
15:25	8.75	3.44	9.03	2.76	3.93	4.03	3.16	3.24
AVERAGE	8.72	3.44	9.00	2.70	3.92	4.02	3.08	3.15

**USFilter Westates**

Print Date: 02/09/2006

**CEMS RATE TEST #3**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	CO @ 7% TECO & THRM	CO @ 7% TECO & AMTK
15:33	8.67	3.44	8.96	2.76	3.91	4.00	3.14	3.22
15:34	8.74	3.44	8.90	2.76	3.93	3.98	3.16	3.20
15:35	8.74	3.44	8.97	2.76	3.93	4.00	3.16	3.22
15:36	8.76	3.44	9.05	2.76	3.94	4.03	3.16	3.24
15:37	8.86	3.44	8.95	2.76	3.97	4.00	3.19	3.22
15:38	8.85	3.44	8.99	2.76	3.97	4.01	3.19	3.23
15:39	8.77	3.44	8.99	2.76	3.94	4.01	3.17	3.22
15:40	8.63	3.44	8.95	2.76	3.90	4.00	3.13	3.21
15:41	8.69	3.44	9.02	2.76	3.91	4.02	3.15	3.23
15:42	8.83	3.44	9.03	2.76	3.96	4.03	3.18	3.24
15:43	9.01	3.44	9.03	2.76	4.02	4.03	3.23	3.24
15:44	8.90	3.44	9.11	2.76	3.98	4.05	3.20	3.26
15:45	8.93	3.44	9.13	2.76	3.99	4.06	3.21	3.26
15:46	8.85	3.44	9.06	2.76	3.97	4.03	3.19	3.24
15:47	8.68	3.44	8.94	2.76	3.91	3.99	3.14	3.21
15:48	8.72	3.44	8.97	2.76	3.92	4.00	3.15	3.22
15:49	8.79	3.44	9.08	2.76	3.95	4.04	3.17	3.25
15:50	8.82	3.44	9.27	2.76	3.95	4.11	3.18	3.30
15:51	8.83	3.44	9.21	2.76	3.96	4.09	3.18	3.28
15:52	8.81	3.44	9.20	2.76	3.95	4.08	3.18	3.28
15:53	8.99	3.44	9.14	2.76	4.01	4.06	3.23	3.27
AVERAGE	8.80	3.44	9.04	2.76	3.95	4.03	3.18	3.24

**USFilter Weststates**

Print Date: 02/09/2006

**CEMS RATE TEST #4**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
16:03	9.97	3.44	10.17	2.76	4.37	4.45	3.52	3.58	3.58
16:04	10.04	3.44	10.25	2.76	4.40	4.49	3.54	3.61	3.61
16:05	10.05	3.44	10.25	2.76	4.40	4.49	3.54	3.61	3.61
16:06	10.03	3.44	10.25	2.76	4.40	4.49	3.53	3.61	3.61
16:07	9.84	3.44	10.07	2.66	4.32	4.41	3.34	3.41	3.41
16:08	9.88	3.44	10.11	2.56	4.33	4.43	3.23	3.30	3.30
16:09	9.86	3.44	10.10	2.56	4.33	4.42	3.22	3.29	3.29
16:10	9.72	3.44	9.96	2.56	4.27	4.37	3.18	3.25	3.25
16:11	9.68	3.44	9.91	2.56	4.26	4.35	3.17	3.24	3.24
16:12	9.61	3.44	9.83	2.56	4.23	4.32	3.15	3.21	3.21
16:13	9.67	3.44	9.91	2.56	4.26	4.35	3.17	3.24	3.24
16:14	9.74	3.44	10.00	2.56	4.28	4.38	3.19	3.26	3.26
16:15	9.71	3.44	9.95	2.56	4.27	4.36	3.18	3.25	3.25
16:16	9.67	3.44	9.92	2.56	4.25	4.35	3.16	3.24	3.24
16:17	9.59	3.44	9.86	2.56	4.23	4.33	3.14	3.22	3.22
16:18	9.54	3.44	9.81	2.56	4.21	4.31	3.13	3.21	3.21
16:19	9.62	3.44	9.90	2.56	4.24	4.34	3.15	3.23	3.23
16:20	9.46	3.44	9.74	2.56	4.18	4.28	3.11	3.19	3.19
16:21	9.48	3.44	9.75	2.56	4.18	4.29	3.11	3.19	3.19
16:22	9.62	3.44	9.88	2.56	4.23	4.34	3.15	3.23	3.23
16:23	9.65	3.44	9.92	2.56	4.25	4.35	3.16	3.24	3.24
AVERAGE	9.73	3.44	9.98	2.60	4.28	4.38	3.24	3.31	3.31

**USFilter Westates**

Print Date: 02/09/2006

**CEMS DATA TEST #5**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
16:29	9.42	3.44	9.69	2.56	4.16	4.26	3.10	3.17	3.17
16:30	9.58	3.44	9.85	2.56	4.22	4.33	3.14	3.22	3.22
16:31	9.50	3.44	9.76	2.56	4.19	4.29	3.12	3.19	3.19
16:32	9.50	3.44	9.77	2.56	4.19	4.29	3.12	3.19	3.19
16:33	9.44	3.44	9.75	2.56	4.17	4.28	3.10	3.19	3.19
16:34	9.35	3.44	9.64	2.56	4.14	4.24	3.08	3.16	3.16
16:35	9.39	3.44	9.67	2.56	4.15	4.26	3.09	3.17	3.17
16:36	9.28	3.44	9.54	2.56	4.11	4.21	3.06	3.13	3.13
16:37	9.21	3.44	9.48	2.56	4.09	4.18	3.04	3.11	3.11
16:38	9.10	3.44	9.39	2.56	4.05	4.15	3.01	3.09	3.09
16:39	9.10	3.44	9.39	2.75	4.05	4.15	3.24	3.32	3.32
16:40	8.89	3.44	9.17	2.76	3.98	4.07	3.20	3.28	3.28
16:41	8.94	3.44	9.23	2.76	3.99	4.09	3.21	3.29	3.29
16:42	8.79	3.44	9.09	2.76	3.95	4.05	3.17	3.25	3.25
16:43	8.67	3.44	8.98	2.76	3.91	4.01	3.14	3.22	3.22
16:44	8.69	3.44	8.98	2.76	3.91	4.01	3.15	3.22	3.22
16:45	8.76	3.44	9.04	2.76	3.94	4.03	3.16	3.24	3.24
16:46	8.64	3.44	8.94	2.76	3.90	4.00	3.13	3.21	3.21
16:47	8.55	3.44	8.86	2.76	3.87	3.97	3.11	3.19	3.19
16:48	8.54	3.44	8.84	2.59	3.86	3.96	2.91	2.99	2.99
16:49	8.49	3.44	8.79	2.56	3.85	3.95	2.86	2.94	2.94
<b>AVERAGE</b>	<b>9.04</b>	<b>3.44</b>	<b>9.33</b>	<b>2.65</b>	<b>4.03</b>	<b>4.13</b>	<b>3.10</b>	<b>3.18</b>	<b>3.18</b>

**USFilter Westates**

Print Date: 02/09/2006

**CEMS DATA TEST #6**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	CO @ 7% TECO & THRM	CO @ 7% TECO & AMTK
16:57	8.20	3.44	8.52	2.76	3.76	3.86	3.02	3.10
16:58	8.13	3.44	8.46	2.76	3.74	3.84	3.01	3.09
16:59	8.08	3.44	8.39	2.73	3.73	3.82	2.96	3.03
17:00	8.17	3.44	8.48	2.56	3.75	3.85	2.79	2.86
17:01	8.40	3.44	8.69	2.56	3.82	3.91	2.84	2.91
17:02	8.54	3.44	8.84	2.56	3.86	3.96	2.88	2.95
17:03	8.79	3.44	9.07	2.56	3.95	4.04	2.94	3.01
17:04	9.00	3.44	9.28	2.56	4.01	4.11	2.99	3.06
17:05	9.17	3.44	9.42	2.56	4.07	4.16	3.03	3.10
17:06	9.30	3.44	9.53	2.56	4.12	4.20	3.07	3.13
17:07	9.35	3.44	9.59	2.56	4.14	4.23	3.08	3.14
17:08	9.40	3.44	9.66	2.56	4.15	4.25	3.09	3.16
17:09	9.43	3.44	9.71	2.56	4.17	4.27	3.10	3.18
17:10	9.44	3.44	9.70	2.56	4.17	4.27	3.10	3.17
17:11	9.54	3.44	9.79	2.56	4.21	4.30	3.13	3.20
17:12	9.63	3.44	9.90	2.56	4.24	4.35	3.15	3.23
17:13	9.67	3.44	9.93	2.56	4.26	4.36	3.17	3.24
17:14	9.60	3.44	9.88	2.56	4.23	4.33	3.15	3.22
17:15	9.73	3.44	10.00	2.56	4.28	4.38	3.18	3.26
17:16	9.76	3.44	10.00	2.56	4.29	4.38	3.19	3.26
17:17	9.74	3.44	9.98	2.59	4.28	4.37	3.23	3.30
AVERAGE	9.10	3.44	9.37	2.59	4.06	4.15	3.05	3.12

**USFilter Westates**

Print Date: 02/09/2006

**CEMS RATE TEST #7**

09-Feb-2006

Time	OXYGEN THERMox	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	CO @ 7% TECO & THRM	CO @ 7% TECO & AMTK
17:24	9.96	3.44	10.20	2.76	4.37	4.47	3.51	3.59
17:25	9.98	3.44	10.21	2.76	4.38	4.47	3.52	3.59
17:26	10.02	3.44	10.27	2.76	4.39	4.49	3.53	3.61
17:27	10.05	3.44	10.28	2.76	4.40	4.50	3.54	3.62
17:28	10.02	3.44	10.23	2.76	4.39	4.48	3.53	3.60
17:29	10.00	3.44	10.24	2.76	4.38	4.48	3.52	3.60
17:30	10.09	3.44	10.34	2.76	4.42	4.52	3.55	3.64
17:31	10.13	3.44	10.36	2.76	4.44	4.54	3.57	3.65
17:32	10.16	3.44	10.40	2.89	4.45	4.55	3.74	3.82
17:33	10.23	3.44	10.46	3.06	4.48	4.58	3.99	4.08
17:34	10.22	3.44	10.45	3.06	4.47	4.57	3.99	4.07
17:35	10.14	3.44	10.38	3.06	4.44	4.54	3.96	4.05
17:36	10.09	3.44	10.34	3.06	4.42	4.53	3.94	4.03
17:37	10.03	3.44	10.28	3.06	4.40	4.50	3.92	4.01
17:38	9.97	3.44	10.23	3.06	4.37	4.48	3.90	3.99
17:39	9.86	3.44	10.12	3.06	4.33	4.43	3.86	3.95
17:40	9.86	3.44	10.10	3.34	4.33	4.42	4.20	4.30
17:41	9.89	3.44	10.15	3.36	4.34	4.44	4.25	4.35
17:42	9.78	3.44	10.03	3.36	4.30	4.40	4.20	4.30
17:43	9.68	3.44	9.95	3.36	4.26	4.37	4.17	4.27
17:44	9.54	4.69	9.83	3.36	5.74	5.89	4.12	4.22
AVERAGE	9.99	3.50	10.23	3.01	4.45	4.55	3.83	3.92

**USFilter Westates**

Print Date: 02/09/2006

**CEMS RATA TEST #8**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	TECO & THRM	TECO & AMTK	CO @ 7%
17:52	9.30	5.59	9.62	3.57	6.69	6.88	4.28	4.40	4.40
17:53	9.26	5.59	9.57	3.57	6.67	6.85	4.27	4.38	4.38
17:54	9.20	5.59	9.51	3.60	6.64	6.82	4.27	4.39	4.39
17:55	9.15	5.59	9.47	3.85	6.61	6.80	4.55	4.68	4.68
17:56	9.15	5.59	9.45	3.85	6.61	6.78	4.55	4.67	4.67
17:57	9.13	5.59	9.43	3.85	6.60	6.77	4.54	4.66	4.66
17:58	9.11	5.59	9.42	3.85	6.58	6.76	4.53	4.66	4.66
17:59	9.04	5.59	9.36	3.85	6.55	6.73	4.51	4.63	4.63
18:00	9.10	5.59	9.39	3.85	6.58	6.75	4.53	4.65	4.65
18:01	9.16	5.59	9.44	3.85	6.61	6.78	4.55	4.67	4.67
18:02	9.04	5.59	9.36	3.85	6.55	6.73	4.51	4.63	4.63
18:03	8.95	5.59	9.23	3.85	6.50	6.65	4.47	4.58	4.58
18:04	9.00	5.59	9.34	4.04	6.52	6.72	4.71	4.85	4.85
18:05	8.77	5.59	9.11	3.94	6.40	6.59	4.52	4.65	4.65
18:06	8.81	5.59	9.14	3.79	6.42	6.60	4.36	4.48	4.48
18:07	8.90	5.59	9.20	3.79	6.47	6.63	4.39	4.50	4.50
18:08	8.80	5.59	9.11	3.86	6.42	6.58	4.43	4.54	4.54
18:09	8.83	5.59	9.14	4.05	6.43	6.60	4.66	4.79	4.79
18:10	8.79	5.59	9.11	4.05	6.41	6.58	4.65	4.77	4.77
18:11	8.82	5.59	9.14	4.05	6.43	6.60	4.66	4.78	4.78
18:12	8.92	5.59	9.22	4.05	6.48	6.65	4.70	4.82	4.82
AVERAGE	9.01	5.59	9.32	3.86	6.53	6.71	4.51	4.63	4.63

**USFilter Westates**

Print Date: 02/09/2006

**CEMS RATE TEST #9**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	SIE & THRM	SIE & AMTK	CO @ 7% TECO & THRM	CO @ 7% TECO & AMTK	CO @ 7%
18:22	9.18	5.59	9.46	4.25	6.63	6.79	5.05	5.17	5.32
18:23	9.08	5.59	9.36	4.42	6.57	6.73	5.20	5.32	5.47
18:24	9.07	5.59	9.37	4.53	6.56	6.73	5.33	5.33	5.62
18:25	9.09	5.59	9.38	4.66	6.57	6.74	5.48	5.48	5.78
18:26	8.97	6.43	9.28	4.84	7.50	7.69	5.64	5.64	6.17
18:27	9.00	7.62	9.33	5.13	8.90	9.15	6.00	6.00	6.11
18:28	8.84	7.62	9.14	5.17	8.78	9.00	5.95	5.95	6.27
18:29	8.82	7.62	9.12	5.31	8.77	8.99	6.11	6.11	6.30
18:30	8.59	7.62	8.91	5.18	8.60	8.83	5.85	5.85	6.01
18:31	8.62	7.62	8.93	5.18	8.63	8.85	5.87	5.87	6.02
18:32	8.61	7.62	8.95	5.18	8.62	8.86	5.86	5.86	6.03
18:33	8.45	7.62	8.79	5.18	8.50	8.74	5.79	5.79	5.95
18:34	8.19	7.62	8.53	5.51	8.33	8.56	6.02	6.02	6.19
18:35	8.32	7.62	8.65	5.67	8.42	8.64	6.27	6.27	6.44
18:36	8.41	7.62	8.75	5.60	8.48	8.72	6.24	6.24	6.41
18:37	8.40	7.62	8.74	5.09	8.47	8.71	5.66	5.66	5.82
18:38	8.54	7.62	8.87	4.97	8.57	8.80	5.58	5.58	5.74
18:39	8.58	7.62	8.88	4.90	8.59	8.80	5.52	5.52	5.66
18:40	8.63	7.62	8.96	4.69	8.63	8.87	5.32	5.32	5.47
18:41	8.52	7.62	8.85	4.69	8.55	8.78	5.27	5.27	5.41
18:42	8.67	7.62	8.97	4.69	8.66	8.87	5.33	5.33	5.47
AVERAGE	8.69	7.17	9.01	4.99	8.16	8.37	5.68	5.68	5.83

**USFilter Westates**

Print Date: 02/09/2006

**CEMS DATA TEST #10**

09-Feb-2006

Time	OXYGEN THERMOX	CO RAW SIEMENS	OXYGEN AMETEK	CO RAW TECO	CO @ 7% SIE & THRM	CO @ 7% SIE & AMTK	CO @ 7% TECO & THRM	CO @ 7% TECO & AMTK
18:51	8.98	7.62	9.28	4.74	8.89	9.11	5.53	5.68
18:52	9.00	7.62	9.28	4.97	8.90	9.11	5.80	5.94
18:53	8.95	7.62	9.28	4.97	8.86	9.11	5.78	5.94
18:54	8.95	7.62	9.25	5.05	8.86	9.09	5.88	6.03
18:55	8.93	7.62	9.23	5.18	8.85	9.07	6.01	6.16
18:56	8.93	7.62	9.25	5.18	8.84	9.09	6.01	6.18
18:57	9.02	7.62	9.31	5.18	8.91	9.13	6.06	6.21
18:58	9.01	7.62	9.32	5.02	8.90	9.14	5.87	6.02
18:59	9.18	7.62	9.45	4.97	9.03	9.25	5.89	6.03
19:00	9.46	7.62	9.73	4.89	9.26	9.48	5.95	6.09
19:01	9.70	7.62	9.95	4.60	9.45	9.67	5.71	5.84
19:02	9.89	7.62	10.12	4.45	9.62	9.82	5.62	5.73
19:03	10.16	7.62	10.37	4.45	9.86	10.06	5.76	5.87
19:04	10.27	7.62	10.48	4.15	9.96	10.17	5.43	5.54
19:05	10.23	7.62	10.48	3.91	9.93	10.16	5.09	5.21
19:06	10.11	7.62	10.34	3.71	9.81	10.02	4.78	4.89
19:07	10.11	7.62	10.38	3.87	9.81	10.06	4.99	5.11
19:08	10.10	7.62	10.34	3.98	9.80	10.02	5.12	5.24
19:09	9.99	5.33	10.23	3.84	6.78	6.94	4.89	5.01
19:10	9.99	5.12	10.24	3.77	6.52	6.67	4.80	4.92
19:11	10.08	5.12	10.32	4.00	6.57	6.72	5.13	5.25
AVERAGE	9.57	7.27	9.84	4.52	8.93	9.14	5.53	5.66